バローチスターンの先史土器文化に関する考古学的検討
― 愛知県陶磁資料館寄託のパキスタン先史土器群（5）―

Report on the Survey of the Archaeological Materials of Prehistoric Pakistan stored in the Aichi Prefectural Ceramic Museum. Part 5: Archaeological Considerations on the Pottery and Cultures in the Pre-/Protohistoric Balochistan

宗臺　秀明*、小茄子川　歩、木村　聡***、遠藤　仁*****

（*鶴見大学、デカン大学院大学、***沼津市教育委員会、****総合地球環境学研究所）**

SHUDAI Hideaki*, KONASUKAWA Ayumu, KIMURA Satoshi*** and ENDŌ Hitoshi****

要旨：

本稿は、愛知県陶磁資料館に寄託されている彩文土器に関する調査報告である。前稿［Konasukawa *et al*. 2011, 2012; Shudai *et al*. 2009, 2010］までに述べてきたように、総数133点におよぶ彩文土器は、現在のパキスタン・イスラーム共和国の南西部にあたるバローチスターン丘陵部に展開した先史文化の所産であると考えられる。この土器群は、紀元前6千年紀後半から前2千年紀初頭までの長期にわたる時間幅と、それぞれに個性豊かな彩文と製作技法によってバローチスターン先・原史文化の多様性を示し、バローチスターン丘陵部で長期間にわたり展開した地域間交流と土器製作技法の復元に多大な考古学的情報を提供するものである。こうした理由から、筆者らは愛知県陶磁資料館に寄託されているこれらの土器群をいち早く共有・活用できるデータとするために、その資料化を進めてきた。

前回までにナール式土器［Shudai *et al*. 2009］、クッリ式土器［Shudai *et al*. 2010］、エミール式土器およびクエッタ土器様式［Konasukawa *et al*. 2011］、トガウ式土器とケチ・ベーグ式土器およびその他の土器群［Konasukawa *et al*. 2012］について報告してきた。本稿では、前回までに報告した土器群の歴史的意義の検討も含めた、先・原史バローチスターンにおける土器文化の諸問題について考究した。まずは、拙稿［Konasukawa *et al*. 2011, 2012; Shudai *et al*. 2009, 2010］で報告した土器資料を概観し、各土器型式の器種・器形、彩文、製作技法および分布傾向についてまとめた。次いで、バローチスターン先・原史文化における土器の製作技法と彩文の変遷を検討し、本論のまとめとしてバローチスターン先・原史土器文化について筆者らの見解を述べた。

前3年紀前半に完全ロクロ水挽き成形による土器製作技法が登場するが、それ以降もその製作技法が主体となることはなく、前5千年紀後半に成立した「回転台上での粘土紐成形技法で一次成形し、その後ヘラなどの製陶具による回転ケズリと回転ナデによる整形を行なう技法」が、バローチスターン先・原史文化に伝統的な土器製作技法であった。

コブウシやインド菩提樹などの動植物文様と階段形文などの幾何学文様は、前4千年紀後半から前2千年紀前半の長期間わたってバローチスターン先・原史文化に保持され、土器に描かれ続けたことも明らかにした。彩文要素だけではなく、彩文を描くためのカンバスとパネルを設定するという手法も継承さ

* *Associate Professor, Tsurumi University, Kanagawa/Japan.*

** *Ph.D. Student, Department of Archaeology, Deccan College, Post-Graduate & Research Institute (Declared as Deemed-to-be-University under section 3 of the U.G.C. Act,1956), Pune/India.*

*** *Curator, Educational Board of Numazu City, Shizuoka/Japan.*

**** *Visiting scholar, Research Institute for Humanity and Nature, Kyoto/Japan.*

れていた。彩文に関しては、それまでは個別に描かれていた動植物文様が前3年紀中頃に「動物＋植物」というセット関係を構成するに至るプロセスも推定した。このバローチスターン先・原史文化の彩文伝統に基づく彩文様式は、最終的にクッリ式土器に継承されたものと考えた。

そのうえで、バローチスターン先・原史文化における土器文化の設定を試みた。土器製作技法と彩文の観点からすれば、前5千年紀後半から前2千年紀初頭の期間に、メヘルガルI期文化（Stage 0）→土器出現期文化（Stage 1）→キリ・グール・ムハンマド文化（Stage 2）→トガウ文化（Stage 3-early）→ケチ・ベーグ＝ナール文化（Stage 3-late）→前期クエッタ文化（Stage 4）と後期クエッタ文化（Stage 5）→クッリ文化（Stages 6-early/late）→ピーラク文化（Stage 7）という土器文化を設定した。

バローチスターン先・原史文化の土器製作における最も際立った特徴は、製作技法や彩文様式の革新を繰り返すことではなく、長期間にわたる伝統の保持にあり、各土器文化の製作技法と彩文様式が系譜関係にあるという結論を得た。

なお、愛知県陶磁資料館に寄託される人物や動物を中心とする土偶に関しては、機会を改めて報告する予定である。

Introduction

We have been reported the prehistoric pottery of Pakistan stored in Aichi Prefectural Ceramic Museum in Japan since 2009, vol. 46 to vol. 49 of this Journal [Konasukawa *et al*. 2011, 2012; Shudai *et al*. 2009, 2010]. 133 prehistoric painted pottery of Balochistan region in Pakistan have been stored in the Aichi Prefectural Ceramic Museum, Japan. These pottery are private collection own by an individual who lives in Tokyo and entrusted to the museum. Almost all of them are preserved in entirely, not in fragments. The pottery could be classified in the Wares of Togau, Kechi-Beg, Nal, Emir, Kulli and Quetta Style Pottery including Faiz Mohammad Ware, and belong to the duration ranging the later half of the 4th to the beginning of the 2nd millennium B.C. by their pottery forms and painting motives. We have not seen these fine and good conditioned prehistoric materials even in Pakistan itself. On the light of its archaeological precious meaning, whatever it is the pottery from illegal diggings, we are convinced that these materials will be useful to better understand the cultures of ancient Balochistan and Indus Civilization.

We had firstly surveyed with surprisingly some of the collection in the exhibition hall and others packed in wooden cases made of a paulownia tree like caps for the tea ceremony in the storeroom of the museum on 8th September 2005, and stored to draw and take photographs of these materials for making the catalog of the pottery in the working space of the Aichi Prefectural Ceramic Museum from 8th to 15th September 2007. The second season of research at the Museum had been held from 16th to 24th June 2008. And the third season of research had been held from 13th to 17th September 2009.

We have to express our understanding on the pottery culture of prehistoric Pakistan, especially typological change of Balochistan pottery on enclosing the report. As far as figurines that can be also belong to the prehistoric Balochistan cultures stored in this Museum are concerned, we will report them in the following volumes.

Member of participants from the first to the third researchers were KONISHI Masatoshi (Professor emeritus of Rikkyo University), SHUDAI Hideaki (Tsurumi University), KONASUKAWA Ayumu (Department of Archaeology, Deccan College, Post-Graduate & Research Institute), ENDŌ Hitoshi (Research Institute for Humanity and Nature), KIMURA Satoshi (Educational Board of Numazu City), UENO Tsuyoshi (Graduate School of Tokai University), YONEYAMA Akane (Cyber University) and SHUDAI Fukiko.

Ⅰ. Previous Researches on the Prehistoric Pottery of Balochistan

A. Prehistoric Pottery from Balochistan

Prehistoric Balochistan pottery had been classified into many types by characters of painted motif designs, painted colour, surface treatments and belonging ages in every research by scholars. But, it is doubtful that these methods to classify the type of pottery could indicate material cultures each. Many pottery types have been set in short times and small spaces had drawn intricate cultures had rose and fall

Figure. 1 Sites and Regions of Indus Valley and Neighboring Area

in prehistoric Balochistan. Did this cultural situation really be true?

New study trend have begun to grow to put in order the many pottery types to several cultural stages of some Balochistan area cultures with relation to the formation of Indus Civilization after the excavations of Mehrgarh, Nausharo and Pirak in northern Balochistan, and also Miri Qalat in Makran, re-excavation at Nal in southern Balochistan. These excavations, re-excavations present a question about nomenclature on the pottery of prehistoric Balochistan. So we will look back the history of archaeological researches in Balochistan to consider the prehistoric Balochistan Pottery.

Firstly, we sum up the history of research and study on the pottery unearthed from the sites of prehistoric Balochistan. And we will show some pottery cultures in prehistoric Balochistan.

B. Short History of Study for the Prehistoric Pottery of Balochistan

We describe an outline of discovery of prehistoric Balochistan pottery. Please refer to the previous our reports on the history of that in detail. Burnes, A. visited the site of Amri in 1831 [Burnes 1833-34]. He recognized it as archaeological site but not prehistoric site. Mockler, M.E. explored southern Balochistan and he found Harappan site of Sotokagen-dor in 1875 [Mockler 1877]. Noetling, F. also visited Harappan site of Balochistan, Dabar Kot in 1898, and reported Harappan pottery shards. Noetling visited also Periano Ghundai in 1897 and Rana Ghundai in 1898 [Noetling 1899].

Stein, A. had archaeologically explored over the Balochistan since 1904-1928 [Stein 1905, 1929, 1931]. He had firstly visited Bannu basin and sites of Dabar Kot in Laralai, Nal in Kalat in 1904-05. He went back to Zohb Loralai District to excavate and explore the sites of Periano Ghundai, Moghul Ghundai, Rana Ghundai, Sur Jangal and Baleli Mound in winter to spring of 1927, and his report on Dabar Kot express the existence of huge Harappan settlement and prehistoric layers which included many painted pottery shards and figurines in there. He resumed archaeological explorations in Balochistan in fall of 1927 and ended them in spring of 1928. He visited sites of Kargushki Damb, Miri Qalat, Shahi Tump, Sotokagen-dor, Kulli Mehi, Nundara, Niai Buthi and Nal again. He had excavated six sites of Kargushki Damb, Kulli, Mehi, Nundara, Shahi Tump and Sotokagen-dor. Stein defined Kulli (cultural) Complex and Nal phase, and found Shahi Tump Grey Ware with modern glass and buff coloured pottery.

Stein reported colours of surface, painted designs and forms of many pottery shards and figurines on each explorations. And he described the pottery of buff coloured body with polychrome geometric painted motives as Nal type pottery, and defined the chronological date and belonging cultures of other pottery by Nal type was accompanied or not [Stein 1931]. His chronological proposal to prehistoric Balochistan as follows. Shahi Tump (under the layer of Gray Ware) → Chalcolithic of Zhob region → Kulli culture → Nal culture.

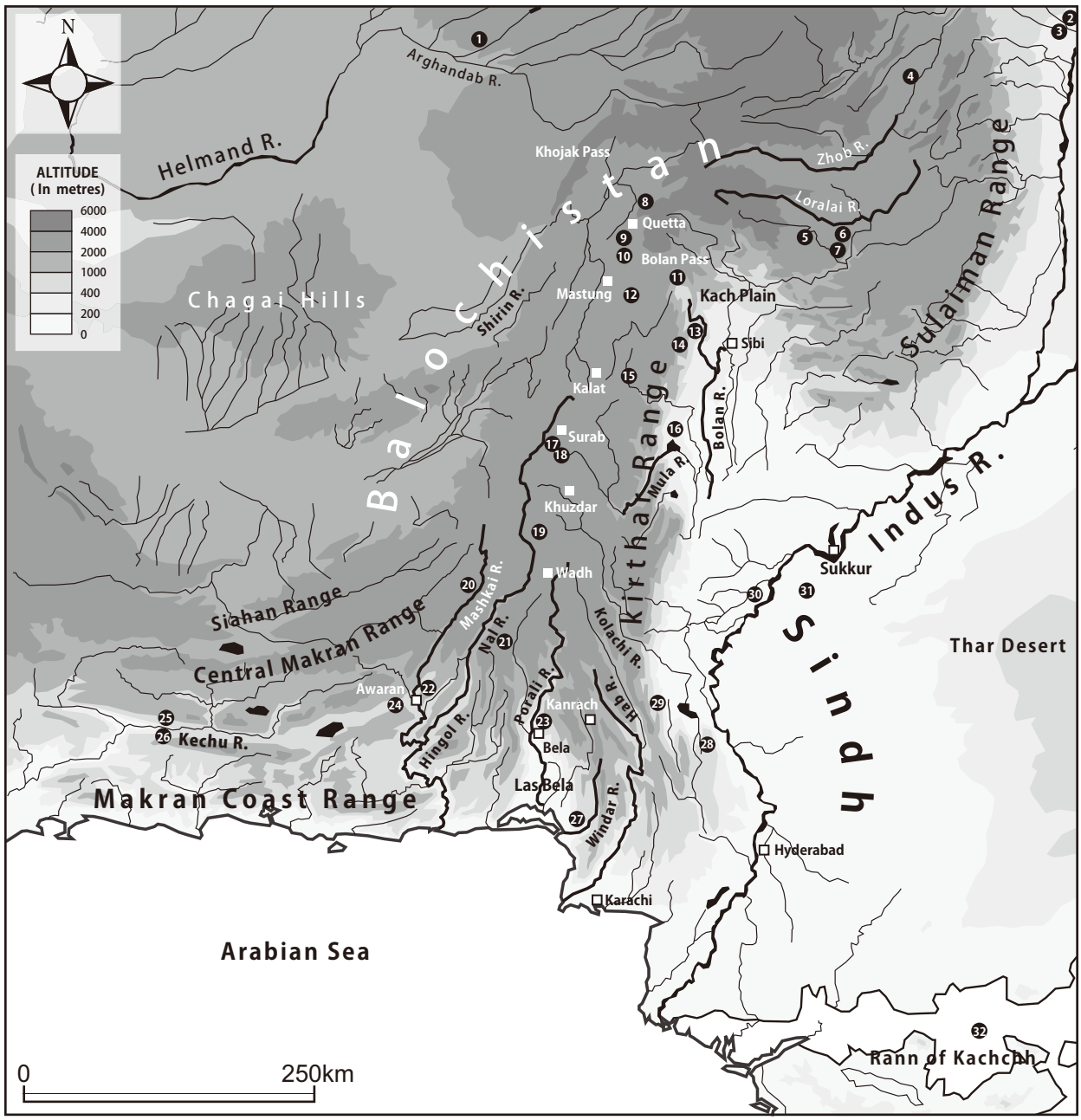
Although Stein's explorations and excavations were not scientific one judging from modern standard, his works in Balochistan are the foundation for the study of prehistoric Balochistan.

Hargreaves, H. visited Sohr Damb and some sites in 1923-25. Sohr Damb is same site to Nal [Hargreaves 1929]. And MaCown, D.E., specialist for Iranian archaeology, visited Kulli culture site, Niai Buthi in 1946 after Stein's survey [MaCown 1946].

Majumdar, N.G. had discovered many archaeological sites and investigated at Amri since 1929 to 1931 in Sind [Majumdar 1934]. He established chronological relation between Amri and Harappan culture on the stratigraphical layer relationships in the site. Amri - Nal phase precedes the Harappan culture, Indus Civilization in Sind.

Piggott, S. summarized the prehistoric cultures of Balochistan in his book that red coloured pottery cultures in Northern Balochistan and buff coloured pottery culture in Southern Balochistan were flourished [Piggott 1950]. This explain on the prehistoric Balochistan culture had been drown out from the results of researches by earlier scholars, especially Stein's researches, and had been a landmark by the prewar of 2nd in the history of Balochistan Archaeology.

New epoch of the archaeological investigation in the Balochistan had made by Fairservis, W. A., de Cardi, B. and Casal, J-M. They had been vigorously done the survey and stratigraphical excavations in Northern to Southern Balochistan since early 50s to 60s.



1. Mundigak 2. Rehman Dheri 3. Gumla 4. Periano Ghundai 5. Sur Jhangal 6. Rana Ghundai 7. Dabar Kot 8. Kili Gul Mohammad 9. Damb Sadaat 10. Kechi Beg 11. Faiz Mohammad 12. Ispelenji 13. Mehrgarh 14. Nausharo 15. Togau 16. Pahani Damb 17. Anjira 18. Siah Damb 19. Nal 20. Mehi 21. Nindowari 22. Nundara 23. Niai Buti 24. Kulli 25. Miri Qalat 26. Shahi Tump 27. Bala kot 28. Amri 29. Ghazi Shah 30. Mohenjodaro 31. Kot Diji 32. Dholavira

Figure. 2 Sites and Regions of Pre-/Proto-historic Balochistan

Fairservis had carried out field researches in Northern Balochistan, Quetta and Zohb-Loralai areas, and southern Afghanistan, Sistan, since 1949 to 51. Excavations in Quetta valley were done at Kili Gul Mohammad, Damb Sadaat, Kechi Beg and others [Fairservis 1956]. Excavations in Zhob-Loralai were done at Zhob, Rana Ghundai, Sur Jangal, Dabar Kot, Periano Ghundai and others [Fairservis 1959]. Fairservis re-excavated some archaeological sites that were surveyed or excavated by Stein as he had a question on the definition of each cultures in prehistoric Balochistan based on pottery by many previous surveys and excavations. Those are Periano Ghundai, Moghul Ghundai, Rana Ghundai, Sur Jangal and Dabar Kot. He took a stratigraphical way in excavatations of sites to resolve the question.

Fairservis found numerous pottery shards from each layer of sites and also the pottery shards from the section of Stein's trench at Dabar Kot [Fairservis 1959]. These stratigraphical excavations gave an opportunity him to establish the cultural chronology in Quetta Valley of Balochistan, as the later half of upper most layers in Kili Gul Mohammad was parallel to earliest layer in Damb Sadaat. He presented the cultural chronology from pre-pottery Neolithic, KGM I, to Bronze Age, Damb Sadaat III. But, Fairservis named pottery after site' s name where the pottery was unearthed, it lead some confusions that pottery names meant cultures or phases and stages of culture. And pottery name was based on the colour of pottery surface and painted design after Piggott' s ideology.

That's are Kili Gul Mohammad red ware, Kechi Beg polychrome ware, Damb Sadaat ware, etc. mean whether cultures or not.

de Cardi excavated Anjira and Siah-damb [de Cardi 1965, 1983], and Casal excavated Nindowari [Casal 1966] in Kalat region. They also got numerous pottery shards from stratigraphical layers, and named some of them as Anjira ware and Togau ware. Nal ware is not to mention. It is important to consider the chronological date of pottery that painted design of Togau ware, A, B or C type with it.

Casal excavated Nindowari from 1962 to 1965. He recognized the main occupational period of Nindowari belongs to the Kulli culture, and the importance of Kulli Ware in chronology for the formation of the Indus Civilization and Kulli-Nal relationship. He supposed that Nal Ware was gathered from under the Kulli occupational layer [Casal 1966].

C. Pottery Sequence and Culture

Observation of Casal on the relation between chronology and pottery, especially the relationship between Harappan and Kulli culture, and Kulli and Nal pottery, became an attention of archaeologists in later. Namely, when we consider formation of Indus Civilization, we have to suppose stages to form the Civilization. It is natural to consider that Kulli Ware and Nal Ware are other culture or other stages of same culture. And in Kachhi Plain east to Quetta valley, Mehrgarh had been excavated since 1970 by French archaeological team. Mehrgarh indicates the development from the pre-pottery Neolithic to Bronze Age society which was parallel to early Harappan culture in the same site. Pottery kilns, which made pottery same as uncovered from sites in Quetta, are excavated from Mehrgarh, and Mehrgarh was flourished as a pottery production center for Northern Balochistan and Kachhi plain at 3rd millennium B.C. [Jarrige *et al*. 1995]. These observation and results of excavation lead to re-consider whether a pottery type could express a culture or not, and to sum up several pottery types to belonging to same culture in different phase. It indicates that some pottery types belong to a pottery style of a culture, like as Quetta pottery style [Konasukawa *et al*. 2011].

We could see same sequences of pottery types in other sites. German archaeological Mission had been re-excavated the site of Nal since 2001 to 2004, and divided the cultural deposits into four continuous periods: Periods I to IV [Franke-Vogt, U. 2003-2004, 2005b, 2008a; Franke-Vogt, U. & A. Ibrahim. 2005]. Kili Gul Mohammad Ware and Togau Ware motives were discovered with Nal Ware from Period II, but Nal ware was no longer made in period III of Nal site. French archaeological Mission also indicates that Nindowari site shows pottery sequence from Nal Ware to Kulli Ware as Kulli culture site [Jarrige *et al*. 2011].

As we saw above, recognitions of pottery types and chronological sequencis were confused, we believe this report on the prehistoric Balochistan pottery that includes some pottery types, like as Kulli, Nal, Quetta, Amri and Faiz Mohammad Ware, mainly

focus on making technique and painted design with colours of pottery surface and core is useful to study prehistoric Balochistan culture.

Ⅱ. Pottery Sequence of Pre-/Proto-historic Balochistan

The details of pottery of Pre-/Proto-historic Balochistan which is stored in the Aichi Prefectural Ceramic Museum are already reported in our previous reports [Konasukawa *et al*. 2011, 2012; Shudai *et al*. 2009, 2010]. In this chapter, we will archaeologically discuss pottery sequence of Pre-/Proto-historic Balochistan through overview of various features in shape, painted motif and making technique of each pottery type.

We will suitably refer to drawings and photographs that are showed in the published excavation reports as possible as we can, pottery stored in the Aichi Prefectural Ceramic Museum does not include all pottery types of Pre-/Proto-historic Balochistan. At the same time, although it is a better method to explain about each example along with drawing and photograph of it, we would like to show the source of drawing and photograph instead of displaying each data because of limited space.

A. Terminology

We will firstly prescribe the meanings of some words for representing the timescale (tradition, age, era, stage, phase) and expressing the pottery cultures (refer to Table 1-4).

Ideas of "tradition" , "era" and "phase" are adopted as timescale in this paper mainly depend on ones of J.G. Shaffer's terminology; he settled the cultural chronology of Indus Civilization [Shaffer 1992]. And archaeologists of American academy have also used these words since 1950s.

'Tradition' means to "persistent configurations of basic technologies and cultural system within the context of temporal and geographical continuty" [Shaffer 1992: 442], and it is classified by the features of cultural style. 'Tradition' is, as it were, a hypothetical framework, and it is not so important the discussion on the relationships between cultures in setting work of that. And 'tradition' is consisted by some 'era's which can be simultaneously in a space of the definite area, like as "period of early farming", "period of regionalization", "period of integration" and "period of localization". However, these periods do not always only indicate stages of the social development, also are included in a 'tradition'. And "period" is subdivided into 'phasis'. The 'phase' which is a minimum idea for analyzing cultures defines the culture in short term of certain area, and corresponds pottery culture prescribed by unearthed pottery.

We will also use 'age' as highest idea for the division of history in this paper. 'Age' is subdivided into 'era's, and 'era' is subdivided into 'stage's which indicate "cultural steps" combined 'phase's. So, it is important on the idea of 'stage' that the components of pottery assemblage show regional interactions.

'Ware' is generally applied to ceramics which are determined the producing district, used techniques and clay, like as Seto ware in Japan. It is general expression as "Harappan Ware" when we indicate some pottery type in South Asian Archaeology. But, we will not basically use this 'ware' to prehistoric pottery types that could not be restrict determined the producing region and clay. We use a term of 'pottery' with excavated district names to pottery types for 'ware'. We employ 'ware' only to Faiz Mohammad Ware, provided that it can be specified the certain producing area. And we use a term 'style' as an idea for assemblage of pottery types.

B. Forms (Shapes), Painting Motives and Making Techniques of Pre-/Proto-historic Pottery of Balochistan

We will confirm the details of each pottery type of Pre-/Proto-historic Balochistan before discussing pottery sequence of that in this part.

(1) Kili Gul Mohammad Pottery [see Konasukawa *et al*. 2012: Fig. 3-4, Fig. 4-10 and 11, Plts. 2-3 to 5 and 4- 1 to 5]

Kili Gul Mohammad pottery (called as KGM pottery in following part) can be evaluated as the oldest painted pottery in Balochistan region. Since the Basket-marked pottery excavated from the period II of Mehrgarh is reported as the first pottery in South Asia [Franke-Vogt, U. 2008a; Jarrige 1998; Jarrige *et al*. 1995; Vandiver 1995], it is possible to place KGM pottery, which had been used in ca. 5000-4000 BCE [Shaffer 1992]. There are three vessels of KGM pottery, which are similar to some pottery shards are reported from the site of Kili Gul Mohammad [Fairservis 1956, 1975, etc], in the Aichi

Prefectural Ceramic Museum. Their features are as follows.

a. Pottery form

Pottery forms stored in Aichi Prefectural Cermic Museum are shallow bowl, globular pot and short-necked globular pot.

b. Slip paste and painting motif

Painted motives of KGM pottery consist of festoon etc. painted in black on the reddish slip or dark reddish slip. The painted motives are not sophisticated and no example having concrete motive such as animal or naturalistic one. Most of painted motives comprises of simple geometrical one.

c. Making technique

Step 1: Forming

A rough shape of pottery is formed by the coil building technique on the slow turn-table or non-rotating anvil. Traces of the joining parts of pottery vessel are clearly observed at the rim and neck of a globular pot and a Short-necked globular pot. According to these features, it is supposed that a process of joining the parts of pottery after semi-drying of them was repeated in forming pottery. And marks of fingers or a spatula for smoothing the traces of joining clay coils are observed.

It is rare to form whole shape of pottery at a stretch. It can be concluded that a pottery making was to be repeated a specific process such as 'forming pottery by the coil building technique to a certain extent or some parts, and then completing, finishing a making pottery after semi-drying'. Therefore, descriptions of the pottery making process in two steps (i.e. the forming step and the finishing step) brings a possibility of misunderstanding on the making process of pottery. But we would like to describe the process of them separately for convenience of description.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on the slow turn-table or non-rotating anvil. Their smoothing and scraping are done in obliquely or uncertain directions [Konasukawa *et al*. 2012: Figs. 3-4, 4-10 and 11]. Whatever a turn-table was used, it can be noted that turn-table had not used efficiently in this period (i.e. turning speed is slow etc.) through these observations. However, it is most likely that the horizontal smoothing traces by fingers around the rim was made by the rotation power. And it can be presumed that the direction of a scraping and smoothing indicates a potter held a pottery upside down in making process.

The marks of scraping are usually visible on the surface of pottery, because the smoothing after the scraping was inefficient. The marks of a tool for scraping are also observed at the lower part of the external body [Konasukawa *et al*. 2012: Fig. 3-4]. The bases of three pottery vessels stored in the Aichi Prefectural Ceramic Museum have finished by the scraping [Konasukawa *et al*. 2012: Plt. 2-5]. And there are specimens which were finished by the polishing technique [Konasukawa *et al*. 2012: Fig. 4-11, Plts. 4-4 and 5]. The polishing on external surface was done after painting motives, in uncertain directions and a unit of polishing strokes was obscure.

Step 3: Firing

Fabric of KGM Pottery is fine and firing condition of it is well.

(2) Togau Pottery [see Konasukawa *et al*. 2012: Fig. 2-1, Fig. 3-2, Plts. 1-1 to 4]

Togau pottery is evaluated as the oldest one adorned with animal motives in Balochistan region. The distinct feature of Togau pottery is the painting style of animal motives horizontally in line of humped bull and birds (i.e. face right or left) in panels which are set at the internal surface of bowl or the external surface of body. It can be presumed that Togau pottery had been used in ca. 4000-3600 BCE [Shaffer 1992]. This Togau pottery had thought to be an important materials for the pottery chronology of the Pre-/Proto-historic Balochistan since de Cardi had first reported it [de Cardi 1965]. de Cardi pointed out that typological change of Togau painted motif could be understood as a simple sequence such as Togau A → Togau B → Togau C → Togau D, because she focused on a stylized process of animal motives through the time [de Cardi 1965: Fig. 10]. According to new results of recent excavations, however, the established assumption by de Cardi has been obliged to be reconsidered. The sequence of animal motives was not simply in fact [Franke-Vogt, U. 2008a etc.]. From the recent excavations and surveys in the southern Balochistan, Franke-Vogt, U. pointed out that the typological change of Togau painted motives

is not simply, and confirmed new situation that painting patterns of Togau A, B, C and D were in the same time [Franke-Vogt, U. 2008a].

The features of Togau pottery are as follows.

a. Pottery form

Pottery forms of Togau pottery stored in the Aichi Prefectural Ceramic Museum are bowl and deep bowl.

b. Slip paste and painting motif

There is examples either with a reddish slip or without a slip. It is really characteristic that they have a specific painting style that animal motives such as humped bulls and birds are painted by black in some horizontal lines (i.e. face right or left) in panels. Painted motives of Togau pottery consist of various realistic or stylized motives. In connection with this point, we can observe that painted motif of a specimen is expressed as combination of Togau A and C [Konasukawa *et al*. 2012: Fig. 2-1], and another specimen is painted by only Togau A [Konasukawa *et al*. 2012: Fig. 3-2]. Some are similar to the pottery stored in the Aichi Prefectural Ceramic Museum are reported from ancient sites of Balochistan [Fairservis 1959: Fig. 65; Jarrige *et al*. 1995: Fig. 3.2; Ross 1946: Fig. 4.].

c. Making technique

Step 1: Forming

A rough shape of pottery is formed by the coil building technique on a slow turn-table or non-rotating anvil. Trace of continuous finger impressions as the joining parts of pottery is clearly observed at the rim and neck of deep bowl. And marks of fingers or a spatula for smoothing traces of joining clay coils are observed. These features indicate that a process of joining clay coils and parts of pottery after semi-drying was repeated in the forming pottery.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on the slow turn-table or non-rotating anvil. It can be presumed that a turn-table had been used efficiently rather than them of KGM pottery, because the direction of the scraping and smoothing is horizontally. Whatever the wheel was used, it can be noted that turn-table had not used efficiently (i.e. turning speed is slow etc.) in this pottery. However, it is most likely that horizontal smoothing traces by fingers around the rim was made by the rotation power.

The marks of scraping are usually visible on the lower part of the external surface of pottery, because the smoothing after the scraping is inefficient. A clay cord is attached on the base for making a ring base on setting a pottery in upside down, and finished by the smoothing with a spatula and fingers [Konasukawa *et al*. 2012: Plt. 1-4]. There is no specimen finished by the polishing technique which is observed in KGM pottery.

Step 3: Firing

Fabric of Togau Pottery is fine and firing condition of it is well.

(3) Kechi Beg Pottery [see Konasukawa *et al*. 2012: Figs. 3-3, 4-9, Plts. 1-5 and 8, 2-1 and 2, 3-6 to 8]

Kechi Beg pottery is characterized by complicated geometric motives. There is no specimen painted by animal and naturalistic motives. Some pottery shards similar to the pottery stored in the Aichi Ceramic Prefectural Museum are reported from the sites of Balochistan region such as Mehrgarh [Jarrige *et al*. 1995: Figs. 2.11, 2.13]. They belong to the period IV of Mehrgarh, later part of the 4th millennium BC (ca. 3600-3200 BCE).

a. Pottery form

Pottery forms of Kechi Beg pottery stored in the Aichi Prefectural Ceramic Museum are shallow bowl and non-necked pot.

b. Slip paste and painting motif

Most of Kechi Beg pottery is decorated by white coloured geometrical motives on a black slip. Some specimens similar to pottery stored in the Aichi Prefectural Ceramic Museum are reported from some ancient sites in Balochistan [Jarrige *et al*. 1995: Fig. 2.11 etc.]. On the other hand, there are specimens painted by black colour, too [Konasukawa *et al*. 2012: Fig. 3-3].

c. Making technique

Step 1: Forming

A rough shape of pottery is formed by the coil building technique on a slow turn-table or non-rotating anvil. Traces of the joining parts of coils or the upper and lower parts of the body that are made separately are clearly observed in many cases. And the marks of fingers or a spatula for smoothing traces of joining clay coils are observed. These features show that a process of joining clay coils and parts of

pottery after semi-drying of them was repeated in forming pottery.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on a slow turn-table or non-rotating anvil. It can be presumed that a turn-table had been used efficiently rather than them of KGM pottery, because the direction of the scraping and smoothing, especially on the external lower part of the body, is horizontally. Whatever the wheel was used, a turn-table had not used efficiently (i.e. turning speed is slow etc.) through these observations in this pottery making. However, it is probably that the horizontal smoothing traces by fingers around the rim was made by the rotation power.

The marks of scraping are usually visible on the surface of pottery by the inefficient smoothing after the scraping. The marks of a tool for scraping are observed at the lower part of the external body [Konasukawa *et al*. 2012: Fig. 3-3 and Plts. 1-6 to 8, 2-1]. A clay cord is attached on almost all the base for making a ring base on setting a pottery upside down [Konasukawa *et al*. 2012: Plts. 2-2, 3-8]. Either the smoothing by fingers or scraping by a spatula finishes the ring bases making. There is no pottery finished by polishing technique.

Step 3: Firing

Fabric of Kechi Beg Pottery is fine and firing condition of it is well. The black spots on the external surface [Konasukawa *et al*. 2012: Fig. 3-3] are derived from ashes in the kiln.

(4) Emir Pottery [see Konasukawa *et al*. 2011: Figs. 2-1 to 4, 3-5, 4-6 to 8, Plts. 1 to 6-1 and 2]

Emir pottery was firstly reported by A. Stein [Stein 1929], and was characterized by gray core, which derived from the well-firing in the non-oxidizing atmosphere using the closed kiln that were probably double chamber up-draft kiln. Pottery making technique of Emir pottery is equivalent to that of Quetta Pottery (including Faiz Mohammad Ware). And both pottery types have some common features such as a pottery form of characterized by bowl, painting pattern characterized by applying motives on the internal surface and gray core. But the making period (Emir pottery belong to the later part of the 4th millennium BC, Quetta pottery belong to the first part of the 3rd millennium BC) and distribution area of both pottery are clearly different [Besenval 1992, 1994, 1997, 2000, 2005; Besenval and Marquis 1993; Besenval and Sanlaville 1990; Besenval and Didier 2004; Besenval *et al*. 2005; Piperno and Salvatori 2007; Sajjadi *et al*. 2003; Wright 1986, 1987, 1989a, 1989c, 1991, 2010, etc].

a. Pottery form

Pottery forms of Emir pottery stored in the Aichi Prefectural Ceramic Museum are deep bowl and shallow bowl.

b. Slip paste and painting motif

There is no specimen with a slip. Emir pottery is painted by various motives such as swastika (卍), comb-like, goats and pipals by reddish brown or black pigments, that are basically placed on the internal surface of bowl. The major motif is swastika (卍). And parallel lines (i.e. straight or curved line) or festoons are painted around the rim.

c. Making technique

Step 1: Forming

A rough shape of pottery is formed by the coil building technique on a slow turn-table or non-rotating anvil. Traces of the joining parts of coils or the upper and lower parts of the body that are made separately, are clearly observed in most of the cases. And marks of fingers or a spatula for smoothing traces of joining clay coils are observed. These features indicate that a process of joining clay coils and parts of pottery after semi-drying of them was repeated in forming pottery.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on a slow turn-table or non-rotating anvil. According to the direction of scraping (i.e. scraping from bottom to head in obliquely), it can be presumed that the procedure of scraping is understood as follows: firstly pottery maker holds a pottery upside down, secondary the pottery is scraped. And it can be noted whatever the wheel was used, a turn-table had not used efficiently (i.e. turning speed is slow etc.) in even this pottery making. However it is most likely that the rotation power was utilized for the horizontal smoothing traces and very smoothed surface by fingers around the rim.

The marks of scraping are usually visible on the

surface of pottery without around the rim by the inefficient smoothing after the scraping. The marks of a tool for scraping are observed at the lower part of the external body [Konasukawa *et al*. 2011: Plts. 1-4, 2-7, 3-4 and 5]. Flat and round bases of Emir pottery are usually finished by the scraping in setting a pottery upside down [Konasukawa *et al*. 2011: Plts. 1-6, 2-3 and 8, 3-6, 4-5, 5-7]. There is no example finished by the polishing technique.

Step 3: Firing

Fabric of Emir Pottery is fine and firing condition of it is well. It is most likely that most of Emir pottery is characterized by a gray core and surface, that are based on the well-firing in the non-oxidizing atmosphere. On the other hand, there are quite a few examples fired in the oxidizing atmosphere, too. This means pottery kilns were not completly closed for getting the deoxidized atmosphere.

(5) Nal Pottery [see Shudai *et al*. 2009: Figs. 2 to 8; Shudai *et al*. 2010: Fig 21, Plts. 6 to 16]

Nal pottery is characterized by various polychrome motives, which are painted by red, yellow and green (or blue-like). These motives consist of naturalistic, animal and geometric ones [Shudai *et al*. 2009: Fig. 9]. Naturalistic motives are pipal leaves and cypress, etc. Animal motives are water buffalos, felidae animals (probably panther), goats, birds, fishes and wild boars. Geometrical motives are roughly divided into two groups, the first group consists of curvilinear and circle motives, and another group consists of combination of straight lines (square and cross, etc.) and zigzag (step-like motif). In addition to these geometric motives, there are fish scale and intersecting circle patterns, too.

Although the tradition of painted pottery in Pre-/Proto-historic Balochistan had maintained since KGM pottery, Nal pottery is the most distinctive one in that tradition, especially on the using polychrome painting. This polychrome painting pottery of Nal is assumed to be used not only the pottery for daily use but also for grave goods [Hargreaves 1929; Stein 1931].

Some scholars suggested that there is a specific relationship between Nal pottery and pottery from Amri, called like as Amri-Nal Culture [Piggott 1950; Casal 1963] and also Bala Kot [Dales 1974, 1979; Franke-Vogt, U. 1997, 2005a].

Re-excavations at Nal (Sohr Damb) by the German team prescribed that Nal pottery had been used in the period II of Nal, ca. 3500-3200 BCE [Franke-Vogt, U. 2003-2004, 2005a, 2008a, 2008b; Franke-Vogt, U. and Ibrahim 2005; Gorsdorf 2005].

a. Pottery form

Forms of Nal pottery stored in the Aichi Prefectural Ceramic Museum are canister, carinated non-necked jar, straight-sided bowl, open mouth non-necked jar, bowl and jar stand.

b. Slip paste and painting motif

Nal pottery is characterized by various polychrome motives, which are painted by red, yellow and green [Shudai *et al*. 2009: Fig. 9]. Most of pottery are basically coverd by a whitish slip for the background of painting. It is worthwhile to note that paintings are done on all pottery forms and there is no specific rule between applied motives and pottery forms. And each painting motives are not painted indipendently in most of cases. They are arranged along with other motives on the surface of pottery.

While simple lines are used for separating motif of painting unit, others including naturalistic and animal motives are also used for separating motif. They made panels on the surface of the pottery for making some units for painting. It is very important factor which had been succeeded to the pottery in Pre-/Proto-historic Balochistan since Nal pottery.

And, the procedure of painting motives could be divided into 'before firing' and 'after firing' as follows,

pre- firing: drawing horizontal lines for making the painting zone which will be filled in painting motives, and drawing the outline of painting motives by black on a whitish slip.

post- firing: filling up the inside of outlines of motives by red, yellow and green colour pigments. These pigments are peeled off easily by touching the surface.

And there is cordon decoration made of the clay and appliqué technique as the pottery decoration technique [Shudai *et al*. 2009: Figs. 7-47, 8-10 and 11; Shudai *et al*. 2010: Fig. 21-3, Plts. 14-8, 16-2 to 5, 8].

c. Making technique

Step 1: Forming

A rough shape of pottery is formed by the coil building technique on a slow turn-table or non-rotating anvil.

The carinated point of the body, which is observed in most of Nal pottery, could be understood as the joining points of coils or the upper and lower parts of the body that are made separately. And marks of fingers or a spatula for smoothing traces of joining clay coils are observed. These features indicate that a process of joining parts and clay coils of pottery after semi-drying of them was repeated in forming a pottery.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on a slow turn-table or non-rotating anvil. Whatever the wheel was used, it can be noted that turn-table had not used efficiently (i.e. turning speed is slow etc.) in this pottery making, because the direction of scraping is not standardized (i.e. the scraping in obliquely in some cases, not in horizontally). However it can be assumed that some pottery which have marks of units of a scraping tool at the lower part of external body are finished on a turn-table (i.e. turning speed is not slow) [Shudai *et al*. 2009: Figs. 3-6, 5-2, 4 and 9, 6-24]. It is most probable that horizontal smoothing traces by fingers around the rim was made by the rotation power.

Marks of scraping are usually visible on the surface of pottery by the inefficient smoothing after the scraping. Some specimens are finished by only scraping. And there are some pottery having continuous finger impressions at the carinated point of body.

A clay cord is attached on the base for making a ring base on setting a pottery upside down in most of cases. Ring bases are basically finished by the smoothing using a spatula or fingers, not scraping. However, the flat base of canister was finished by scraping. There is no specimen finished by the polishing technique.

Step 3: Firing

Fabric of Nal Pottery is fine, and firing condition of it is well.

(6) Quetta Pottery [see Konasukawa *et al*. 2011: Figs. 5 to 8, Plts. 6-3 to 8, 7 to 9]

Quetta pottery is characterized by various motives, which are painted on the internal surface of bowl and external surface of other pottery bodies. Various painted motives consist of naturalistic, animal and geometric ones. Naturalistic motives are pipal leaves etc. Animal motives are humped bulls, birds and fishes, etc. Major geometrical motives consist of the combination of straight lines (square and cross, etc.) and zigzag (step-like motif). It is noteworthy on the making techniques of Quetta pottery that the appearance of potter's wheel and gray ware by the well-firing in the non-oxidizing atmosphere are observed. And potter's marks, which are understood as symbols showing the relation with specific craftsmen or workshops [Quivron 1997 etc.], are also observed in some pottery [Konasukawa *et al*. 2011: Pl. 8-2]. Results of excavations at Mehrgarh and explorations at Balochistan region show that Quetta pottery had been used in ca. 3200-2600 BCE [Fairservis 1956, 1975; Jarrige *et al*. 1995; Wright 1986, 1987, 1989a, 1989c, 1991, 2010; Franke-Vogt, U. 2008a, etc.].

a. Pottery form

Pottery forms of Quetta pottery stored in the Aichi Prefectural Ceramic Museum are bowl, short-necked globular pot, straight-sided bowl, open-mouthed pot and jar, cup and bowl-on-stand.

b. Slip paste and painting motif

Quetta pottery is painted by various animals, naturalistic and geometric motives. Although most of surface of Quetta pottery without gray ware is covered by a whitish slip for painting, there are some specimens covered by a reddish slip [Konasukawa *et al*. 2011: Plt. 9-2]. It is worth to note that these paintings are seen on all pottery forms without specific rule of applied motives for each pottery form, and motives basically painted by reddish brown or black pigments [Konasukawa *et al*. 2011: Figs. 5 to 7]. Furthermore, there are some specimens which are decorated by the cordon decoration made of clay and appliqué technique for the painting [Konasukawa *et al*. 2011: Fig. 5].

c. Making technique

There are pottery which made on the fast turn-table or potter's wheel. But pottery made on a potter's wheel from start to finish are restricted in small-sized pottery[1]. It seems to be appropriate that, even in the case of being observed as the potter's wheel made, most of pottery is made by the complex technique of combination with a turn-table and a potter's wheel, because marks of the scraping are observed at the lower part of pottery. As a turn-

table and a potter's wheel had the same structure, it is presumed that a turn-table and a potter's wheel could be used according to shape and size of objects. The different making technique does not mean the difference of dating.

We will describe here two making techniques separately as follows.

c.-1 Making technique on the turn-table

Step 1: Forming

A rough shape of pottery is formed by the coil building technique on a slow turn-table in efficiently. A carinated point of the body, which is observed in some cases, could be understood as the joining points of coils or the upper and lower parts of body that are made separately. And marks of fingers or a spatula for smoothing the traces of joining clay coils ant parts are observed. These features show that a process of joining clay coils and parts of pottery after semi-drying of them was repeated in forming pottery.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on a slow turn-table in efficiently. Marks of the scraping and smoothing are more and more further horizontally in comparison with other pottery alredy mentioned [Konasukawa *et al*. 2011: Figs. 5, 8-4, 5, 7, 8, and 10, Plts. 8-8, 9-8]. It can be presumed that the speed of rotating of turn-table is never slow, and marks of a tool for scraping at the external body indicate that pottery making could be done on a fast turn-table [Konasukawa *et al*. 2011: Figs. 7, 8-7, Plt. 7-6]. The painted parallel lines as well as the marks of the scraping and smoothing are painted regularly horizontal in many cases. It can be stated that it is a result of using the efficient rotating power. There is no specimen having marks of the scraping and smoothing in obliquely, that is observed in Emir pottery etc. Although the scraping for smoothing surface of pottery is done carefully, scraping marks are exceptionally observed on the lower part of the external surface of body, because the smoothing after the scraping is inefficient.

A clay cord is attached on the base for making a ring base on setting a vessel upside down in most of cases. Ring bases of Quetta pottery are basically finished by the smoothing using a spatula or fingers, not by scraping [Konasukawa *et al*. 2011: Plts. 7-7, 8-2 and 4]. Almost all of flat base is finished by the smoothing after the scraping [Konasukawa *et al*. 2011: Plts. 6-6, 9-1 and 8]. Although the polishing technique is not observed, some specimens show a possibility of polishing by a cloth on a turn-table [Konasukawa *et al*. 2011: Plts. 6-4 and 5]. Their painting motives are fadeout.

Step 3: Firing

Fabric of Quetta Pottery is fine, and firing condition of it is well, and core and surface of most of Quetta pottery is gray. They are fired in the non-oxidizing atmosphere using the closed kiln (i.e. double chamber up-draft kiln). On the other hand, some pottery is fired in the oxidizing atmosphere, too. The black spots on the external surface are dereved from ashes in the kiln [Konasukawa *et al*. 2011: Plts. 7-5 to 7].

c.-2 Making technique on the potter's wheel

Step 1: Forming

A rough shape of pottery is formed on a potter's wheel. But the pottery made on a potter's wheel throughout making are rare. There is no specimen made completely on a potter's wheel from start to finish in the pottery stored in the Aichi Prefectural Ceramic Museum. It can be presumed that the upper and lower part of the body were made separately on a potter's wheel, then they were joined in most of cases. Some specimens tended to be understood to be made completely on a potter's wheel throughout pottery making [Konasukawa *et al*. 2011: Figs. 8-4, 5 and 8], but they are not to be done. We would like to understand that the making techniques were selected suitably in accordance with the shape and size of the object.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on a fast turn-table or potter's wheel. Though pottery was formed firstly on a potter's wheel, they were completed by the smoothing after the scraping on the fast turn-table in many cases. Marks of the scraping are visible on the surface, especially on the lower part of the body, because the smoothing after the scraping is inefficient.

A clay cord is attached on the base for making a ring base on setting a vessel upside down. The ring bases are basically finished by the smoothing using a spatula or fingers, not by scraping. And pottery

made on a potter's wheel from start to finish basically has a string-cut mark or a spatula-cut mark on the base. In those cases, the bases show a flat one which has a little depressed point at the center part of it. There is no specimen having the polishing technique.

Step 3: Firing

Fabric of Quetta pottery is fine, and firing condition of it is well, and cores and surfaces of many Quetta pottery is gray. They are fired in the non-oxidizing atmosphere using the closed kiln (i.e. double chamber up-draft kiln). On the other hand, some pottery is fired in the oxidizing atmosphere, too.

(7) Kulli Pottery and Kulli-related Pottery [see Shudai *et al*. 2010: Figs. 4-1 to 6, 7 to 10, Plts. 1 to 5]

Kulli pottery [Shudai *et al*. 2010: Figs. 4, 7 to 9] is characterized by a specific painting style, which is 'animal plus plant' [Shudai *et al*. 2010: Figs. 5 and 6]. Animal motives are humped bulls, feline animals, ibexes, fishes and birds, that are characterized by a large round eye. Plant motives are pipal, cypress and their combination, etc. Other motives are staff-like, sun-like, curved line, temple-like, etc. On the other hand, Kulli-related pottery [Shudai *et al*. 2010: Fig. 10] is characterized by painted motives of rows of ibex which are painted in the narrow panels on the surface. It can be presumed that Kulli-related pottery is earlier than Kulli pottery by typological change of painting style and making technique [Kondo *et al*. 2007; Shudai *et al*. 2010].

There are two making techniques of Kulli pottery, that are the making on a turn-table and potter's wheel throughout as well as Quetta pottery. These two pottery making techniques in the same period is one of the distinct features of South Asia since a potter's wheel had appeared. Even in the Harappan period, those two making techniques had been used for making Harappan pottery and other type pottery [Dales and Kenoyer 1986; Uesugi 2011, etc.]. Although some scholars set chronologically Kulli pottery to Pre-/Early Harappan period [Jarrige *et al*. 2011; Quivron 2008; Shudai 2010, etc.], we can not agree with them, but not new idea on present data. For this reason, we set here that Kulli pottery had been made and used in the southern Balochistan in the Harappan period (c. 2600 to 1900BCE), especially in ca. 2400-1900 BCE [Kondo *et al*. 2007; Shudai *et al*. 2010].

a. Pottery form

Pottery forms of Kulli pottery stored in the Aichi Prefectural Ceramic Museum are canister, open-mouthed jar and bowl, open-mouthed globular pot, shallow-mouthed pot, straight-sided bowl and cup, non-necked globular pot, nail-beaded rim bowl and carinated open mouthed pot.

The relation of Kulli and Kulli-related pottery with Harappan pottery is observed on the specific pottery forms such as the nailed-beaded rim [Shudai *et al*. 2010: Fig. 9-10]. Although both pottery types are characterized by different painting style respectively, it is interesting that the relationship is observed on the pottery form [Kondo *et al*. 2007; Shudai *et al*. 2010].

b. Slip paste and painting motif

Kulli pottery is characterized by various painting motives [Kondo *et al*. 2007; Possehl 1986; Shudai *et al*. 2010: Figs. 2 and 3]. Although a reddish or whitish slip is applied under painting on most of pottery, there are specimens without a slip. Paintings are embroidered in all pottery forms and there is no specific rule for using motives [Kondo *et al*. 2007; Shudai *et al*. 2010]. The motives are basically painted by reddish brown or black pigments.

Some pottery have cordon decoration made of the clay and appliqué technique [Shudai *et al*. 2010: Figs. 4-5, 10-12 to 14].

Furthermore there are specimens having a sign such as potter's mark [Shudai *et al*. 2010: Pls. 1-3, 2-1]. The similar signs are observed on the pottery discovered from the site of Nindowari [Casal 1966: Plt. XII; Jarrige *et al*. 2011: Figs. 14-12, 15-16 to 22, 24 to 31] etc.

c. Making technique

Pottery is made on a turn-table or potter's wheel from start to finish as well as Quetta pottery. But pottery made on a potter's wheel throughout are restricted in small-sized pottery. Almost all of Kulli and Kulli-related pottery employ complex technique which combine to use a turn-table and potter's wheel, even in the case of being considered to be made by potter's wheel from start to finish, because marks of the scraping are observed at the lower part of the body. It is presumed that a turn-table used as potter's wheel and also turn-table in according to the form and size of pottery. So, it could not be placed chronologically pottery making on a potter's wheel to the later than that on a turn-table. It can be noted

that both techniques had used together in the same period. The difference of making technique between a potter's wheel and turn-table does not mean only the difference of dating.

We will describe here two making techniques separately, namely making on a turn-table and a potter's wheel.

c.-1 Making technique on the turn-table

Step 1: Forming

The coil building technique on a slow turn-table in efficiently forms a rough shape of pottery. The carinated point of body, which is observed in the some cases, can be understood as the joining points of coils or the upper and lower parts of body that are made separately. These features indicate that a process of joining the clay coils and parts of pottery after semi-drying of them was repeated in forming pottery. And marks of fingers or a spatula for smoothing the traces of joining clay coils are observed.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on the slow turn-table. Marks of the scraping and smoothing are more and more further horizontally in comparison with other pottery [Shudai *et al*. 2010: Figs. 4, 7 to 10, Plt. 2-4]. It can be presumed that the speed of rotating of the turn-table is never slow. The painted parallel lines as well as marks of scraping and smoothing of almost all pottery are painted regularly in horizontal. That is a result of the efficient using of the rotating power. Although the scraping for smoothing a surface of pottery are done carefully in most of cases, marks of the scraping are observed on the lower part of external surface of body in some pottrey, smoothing after scraping is inefficient [Shudai *et al*. 2010: Plt. 2-4].

A clay cord is attached on the base for making a ring base on setting pottery upside down. Ring bases are basically finished by the smoothing using a spatula or fingers, not by the scraping. There are a lots of specimens having a flat base [Shudai *et al*. 2010: Plts. 1-3, 2-2 and 8, 3-2 and 6, 5-1 and 5]. Although there is no pottery having polishing technique, faded painting motives show a possibility of polishing by a cloth on a turn-table [Shudai *et al*. 2010: Plt. 2-6].

Step 3: Firing

Fabric of Kulli Pottery and Kulli-related pottery is fine, and firing condition of them is well. Although there is one gray ware [Shudai *et al*. 2010: Fig. 8-9] which is fired in the non-oxidizing atmosphere in the pottery stored in the Aichi Prefectural Ceramic Museum, this is unprecedented one.

c.-2 Making technique on the potter's wheel

Step 1: Forming

A rough shape of pottery is formed on a potter's wheel. But pottery made on a potter's wheel from start to finish are rare. Only a specimen [Shudai *et al*. 2010: Fig. 4-2] is completed throughout on a potter's wheel in the pottery stored in the Aichi Prefectural Ceramic Museum. Another specimen [Shudai *et al*. 2010: Fig. 4-3 and 6, Plt. 2-7] tends to be understood as a pottery made completely on a potter's wheel, but it is most likely that finishing trances observed on the surface of pottery show the smoothing was done on a fast turn-table, not on a potter's wheel. It can be presumed that the upper and lower part of body was made separately on a potter's wheel, then they were joined. We would like to understand that the making techniques were selected suitably in according to the form and size of pottery.

Step 2: Finishing

Following semi-drying of Step 1, pottery is finished by the smoothing with a spatula and fingers after the scraping with a spatula on a fast turn-table or on a potter's wheel. Though there are pottery made on a potter's wheel throughout in Kulli pottery, the majority of pottery are formed firstly on a potter's wheel and then finished by the smoothing after the scraping on a turn-table. The marks of scraping are visible on the surface, especially at the lower part of the body by the inefficient smoothing after the scraping.

A clay cord is attached on the base for making a ring base on setting a pottery upside down. The ring bases are basically finished by the smoothing using a spatula or fingers, not by the scraping. There are a lots of specimens having a flat base. Furthermore, the bases of pottery made on a potter's wheel from start to finish are basically characterized by a string-cut mark or spatula-cut mark on them [Shudai *et al*. 2010: Plt. 1-6]. Flat bases has a little depressed point at the center of that, [Shudai *et al*. 2010: Plt. 1-5]. This feature is an accurate merkmal to distinguish the

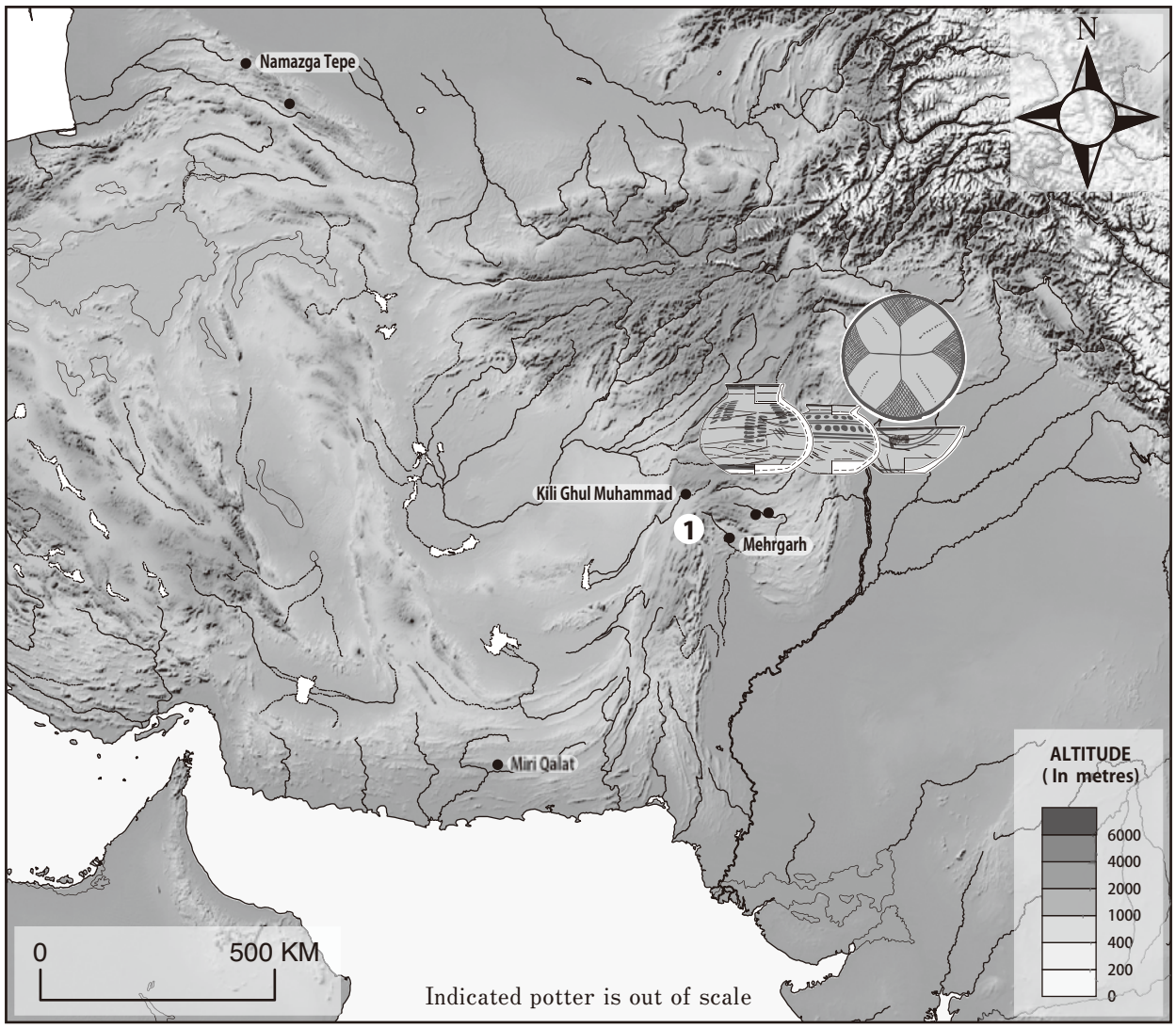


Figure. 3 Stage 2 (ca. 5000-4000 BCE): KGM Pottery

pottery made on a potter's wheel throughout from that on a turn-table.

Step 3: Firing

Fabric of Kulli Pottery and Kulli-related pottery is fine, and firing condition of them is well.

C. Distribution Patterns of the each Pottery Type

We reconfirmed that the forms (shapes), paintings and making techniques of the pottery of Pre-/Protohistoric Balochistan on our observation of the pottery stored in the Aichi Prefectural Ceramic Museum in the last part. Although the pottery stored in there does not cover all types of pottery of Pre-/Proto historic Balochistan, it could be included some pottery groups that extend over a long term (ca. 5000 to 1900 BCE).

We will discuss the distribution patterns of the pottery in every stage and refer to the aspects of interexchange between the regions. The cultural exchange of Pre-/Proto historic Balochistan was not restricted in the interexchange in the Balochistan region. When we consider typological change of the pottery, it is necessary to discuss the aspects of the interexchange between Balochistan and its neighbors.

Authors show the appearance of pottery types, to be related to our concern, every cultural stages which are divided a long term (ca. 6000 to 1500 BCE) into the stages 0 to 7 on the previous studies [Dales 1965, 1973; Fairservis 1967, 1975; Jarrige *et al*. 1995; Kenoyer 1991; Mughal 1970, 1991; Possehl 1989, 1999; Shafer 1992; Quivron 2000; Franke-Vogt, U. 2008a; Besenval 2005] (Table 1-4).

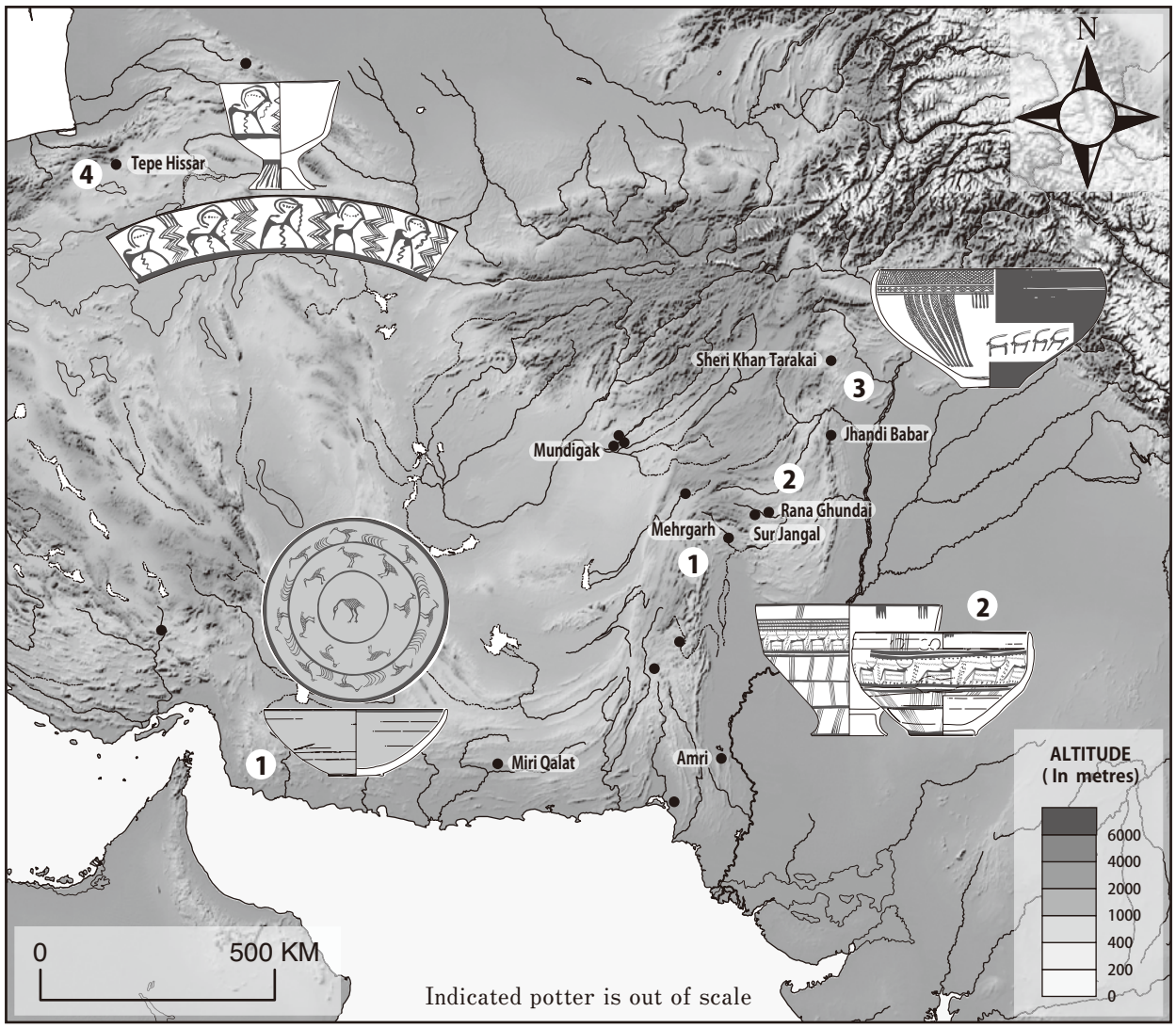


Figure. 4 Stage 3-early (ca. 4000-3600 BCE): Togau Pottery

(1) Stage 0 (ca. -5500 BCE): Aceramic Neolithic

Although no pottery is reported from the Stage 0 (ca. 6000-5500 BCE), vessels are made of stone (plaster) had been used in this stage [Jarrige *et al*. 1995: 188; Shaffer 1992].

(2) Stage 1 (ca. 5500-5000 BCE): Emergence of pottery

The oldest pottery of South Asia is excavated from the period II of Mehrgarh, and that is the Basket-marked pottery which was manufactured by the sequential slab construction technique [Franke-Vogt, U. 2008a; Jarrige 1998; Jarrige *et al*. 1995; Vandiver 1995]. It is impossible to examine its distribution pattern why this type pottery has not been reported from other sites in this stage so far.

It is possible to understand that Stage I is the emergence phase of pottery. But, it is unknown to be relations between Balochistan and other regions by only a few sites unearthed pottery in this period. Other basket-marked pottery, called as Burj basket-marked pottery, had been used after Stage 1.

(3) Stage 2 (ca. 5000-4000 BCE): KGM Pottery

In Stage 2 (ca. 5000-4000 BCE), KGM pottery is discovered from the period II of Kili Gul Mohammad (Fig. 3-①) is situated at Quetta region in central Balochistan [Fairservis 1956, 1975. etc.] and the period II of Mehrgarh which is situated at Kachhi plain [Jarrige *et al*. 1995] (Fig. 3).

Painted pottery is reported from other regions. That are Miri Qalat, period II in Makran where is

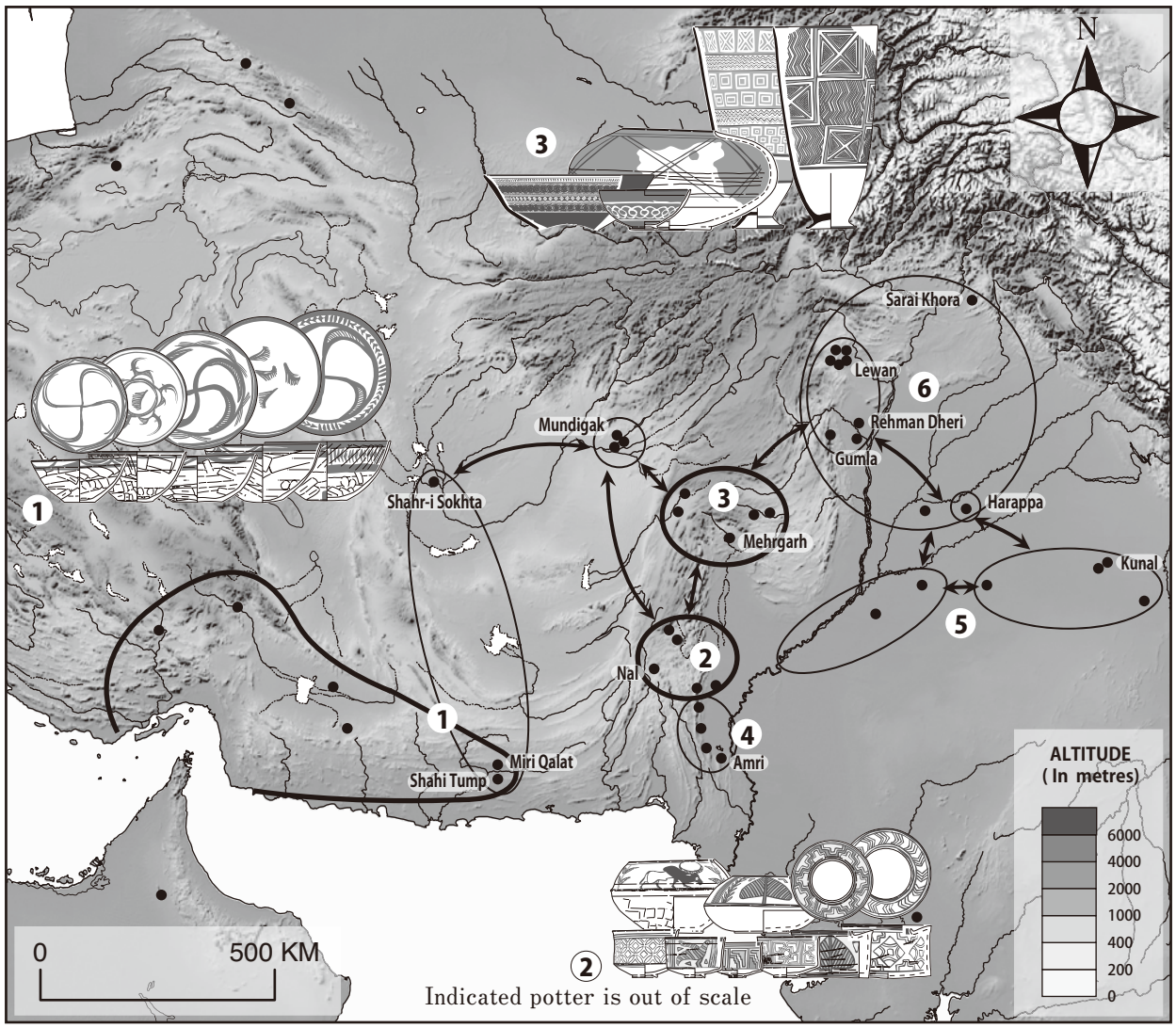


Figure. 5 Stage 3-late (ca. 3600-3200 BCE): Kechi Beg Pottery, Emir Pottery and Nal Pottery

adjacent to south-western Iran [Besenval 2005], and Anau, period I in southern Turkmenia [Biscion 1979; Masson and Sarianidi 1972; P'yankova 1994].

Stage 2 is characcterized by the emergence of painted pottery.

(4) Stage 3-early (ca. 4000-3600 BCE): Togau Pottery

Togau pottery had been spread over in the broad area which ranges from the southern Balochistan to northern Balochistan in Stage 3-early (ca. 4000-3600 BCE) (Fig. 4-① to ③).

Togau pottery includes various painting styles. It is not clear whether all painting motives of Togau pottery belong to only this stage or not, but painted pottery having similar painting motives with Togau are reported from the period I of Mundigak [Casal 1961], Sheri Khan Tarakai [Farid Khan *et al*. 1991], Jhandi Babar A [Farid Khan *et al*. 2000b], the period III of Mehrgarh [Jarrige *et al*. 1995], the period II of Rana Ghundai [Fairservis 1959; Ross 1946], the period II of Sur Jangal [Fairservis 1959], the period I of Nal [Franke-Vogt, U. 2003-2004, 2005b, 2008a], the period IB of Amri [Casal 1963], the period I of Bala Kot [Franke-Vogt, U. 1997, 2005a], the period II of Miri Qalat [Besenval 1997, 2005] (Fig. 4). And shape and painting of pottery from the period IC of Tepe Hissar in northern Iran [Schmidt 1933: Plts. IV-XI] are similar to pottery discovered from the period II of Rana Ghundai [Ross 1946: Fig. 4, Plt. XII] are reported. It can be presumed that a broad interexchange which had not been confirmed in Stage 2 had been done in this stage 3-early [Franke-Vogt, U. 2008b; Uesugi 2008].

Sheri Khan Tarakai Pottery, which had been

distributed in Bannu and Gomal regions, can be given as the distinctive pottery type other than Togau pottery in Stage 3-early. This pottery has similarity with Togau pottery on paintings [Farid Khan *et al*. 1991, 2000b].

(5) Stage 3-late (ca. 3600-3200 BCE): Kechi Beg Pottery, Emir Pottery and Nal Pottery

In Stage 3-late (ca. 3600-3200 BCE), Kechi Beg pottery is distributed in Quetta and Kachhi regions of central Balochistan (Fig.5-③), Nal pottery is distributed in a restricted area along with the Naj Gaj at the foothills of Khuzdar and Khirtar of southern Balochistan (Fig. 5-②), and Emir pottery is distributed in Makran where is adjacent to the south-western Iran (Fig. 5-①). Kechi Beg Pottery is reported from the period IV of Mehrgarh [Jarrige *et al*. 1995], Nal Pottery is reported from the period II of Nal [Franke-Vogt, U. 2003-2004, 2005b, 2008a, 2008b; Franke-Vogt, U. and Ibrahim 2005] and Rohel-jo-kund [Deva and MaCown 1949], and Emir Pottery is reported from the period IIIA of Miri Qalat [Besenval 1997, 2005], Shahi Tump [Besenval 2000, 2005; Stein 1929; Wright 1989c] and the graveyard of Shahr-i Sokta [Sajjadi *et al*. 2003; Piperno and Salvatori 2007].

The geometrical motives of Kechi Beg Pottery and Nal Pottery show the relation with the Iranian Plateau. Especially step-like motives, which characterize Nal pottery, was distributed broadly in central Asia and east-southern Iran, etc. [Biscione 1973; Gupta 1979; Konasukawa 2008a; Masson and Sarianidi 1972; P'yankova 1994].

And it is noteworthy that some distinctive pottery types are confirmed at the Indus plain in this stage. Tochi-Gomal Pottery (including Ravi Pottery) is reported form the early period of Lewan [Allchin *et al*. 1986], the period II of Gumla [Dani 1970-71], periods IA to II of Rehman Dheri [Durrani 1988 etc.], the period IA of Harappa [Kenoyer and Meadow 2000] and the period II of Jalilpur [Mughal 1972a, 1974, etc] in the area around Gomal and Bannu (Fig. 5-⑥). Hakra Pottery (including Regional Hakra Pottery) is reported from the Hakra basin [Mughal 1997] and Girawad [Shinde *et al*. 2011], etc. and Kunal pottery is reported from the period I of Kunal [Acharya 2008] in the Ghaggar-Hakra basin (Fig. 5-⑤). Amri pottery is reported from the period I of Amri [Casal 1963] in the southern Sindh (Fig. 5-④). And Anarta Pottery is reported from Loteshwar [Ajithprasad 2002 etc.] in Gujarat.

Although each pottery types have a specific distribution sphere respectively, they show the loose relations each other.

(6) Stage 4 (ca. 3200-2800 BCE): Quetta Pottery (including Faiz Mohammad Ware)

In Stage 4 (ca. 3200-2800 BCE), Quetta pottery (including FMW) is distributed in Quetta area of central Balochistan (Fig. 6). This pottery type is reported from the periods VI and VII of Mehrgarh [Jarrige *et al*. 1995], the periods IA to IC of Nausharo [Jarrige 1997a·b; Quivron 1994, etc], Lal Shah [Pracchia 1985], and the period II of Damb Sadaat [Fairservis 1956, 1975, etc] (Fig. 6-①). Quetta pottery is also reported from the period IV(1) of Shahr-i Sokhta [Biscione 1990; Lamberg-Karlovsky and Tosi 1973; Tosi 1968, 1969, etc] and Tepe Rud-i Biyaban [Tosi 1970b] in south-eastern Iran. This distribution area means that there is a specific relation between both regions (Fig. 6-④).

R.P. Wright recognized that Quetta pottery excavated from the period IV(1) of Shahr-i Sokhta was carried from Balochistan region [Wright 1986, 1987, 1989a, 1989c, 1991, 2010]. And some pottery shards of Quetta-like pottery were discovered from Tepe Rud-i Biyaban where is the pottery production site. There are amount of 42 pottery kilns including the up-draft kilns. These evidences show the possibility that Quetta-like pottery had been made around Shahr-i Sokhta. And characteristic motives of Quetta pottery are reported from the period IV(1) of Mundigak [Casal 1961; Fig. 6-②] and the period III of Nal [Franke-Vogt, U. 2008a; Fig. 6-③], etc. It could be confirmed that culture of Balochistan region of Quetta intensifies the relationship with the West such as Afghanistan and Iran.

In Indus plain, Kot Diji pottery (Fig. 6-⑤) is reported from the middle level of Lewan [Allchin *et al*. 1986 etc.] in Bannu, the period III of Gumla [Dani 1970-71 etc.] and period IIIA of Rehman Dheri [Durrani 1988 etc.] in Gomal, Saraikola [Halim 1972a, 1972b] and the periods 1B and 2 of Harappa [Jenkins 1994a; Meadow and Kenoyer 2001, etc.] in western Punjab, and the layers 16 to 5 of Kot Diji [Khan 1965], etc. in Sindh. Amri pottery (Fig. 6) is reported from the period IC of Amri [Casal 1963] in the southern

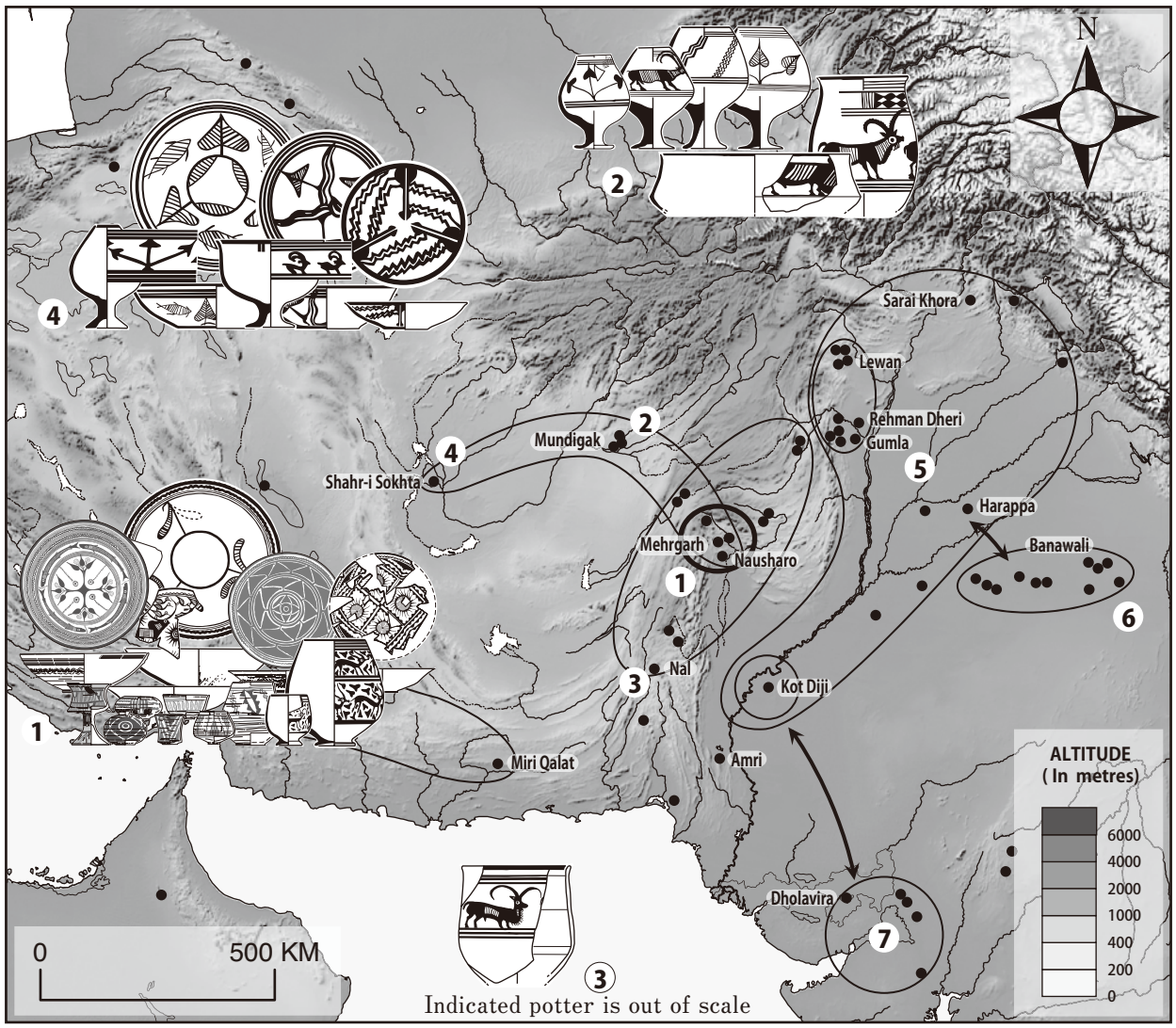


Figure. 6 Stage 4 (ca. 3200-2800 BCE): Quetta Pottery (including Faiz Mohammad Ware)

Sindh, Sothi-Siswal pottery (Fig. 6-⑥) is reported from the period I of Kalibangan [Lal *et al*. 2003] and the period I of Banawali [Bisht 1993, 1999; Bisht and Shashi Asthana 1979] in the eastern Punjab, northern Rajasthan and Haryana, and Anarta pottery (Fig. 6-⑦) is reported from Moti Pipli [Ajithprasad 2002, etc] in Gujarat.

It is possible to classify Quetta pottery as 'multiple-painting pottery group', and Kot Diji pottery and Sothi-Siswal pottery as 'black-banded pottery group'. Latter group has some common features such as a banded painting which shows the loose relationship in them, but multiple painting pottery group and black-banded pottery group have different distribution sphere respectively (Fig. 6). Namely, it can be presumed that the relationship with the West such as Afghanistan and Iran did not reach to the Indus plain in Stage 4.

(7) Stage 5 (ca. 2800-2600 BCE): Transition

Stage 5 (ca. 2800-2600 BCE) is the specific period as the transition from the Pre-earlyIndus period to the Indus period [Possehl 1990; Uesugi and Konasukawa 2008, etc.] (Fig. 7). Although the pottery types which are confirmed in Stage 4 had been used in the each regions of Stage 5, it is important to note that the dynamic interexchange, which characterize the transitional phase, can be perceived specific pottery, namely the pottery having a nailed-beaded rim (Fig. 7-①), flanged short neck globular jar painted by a large-patterned geometrical motif (Fig. 7-②), Wet Ware (Fig. 7-③) and shallow bowl painted by the stylized naturalistic motives to be spreaded over wide regions (Fig. 7-④).

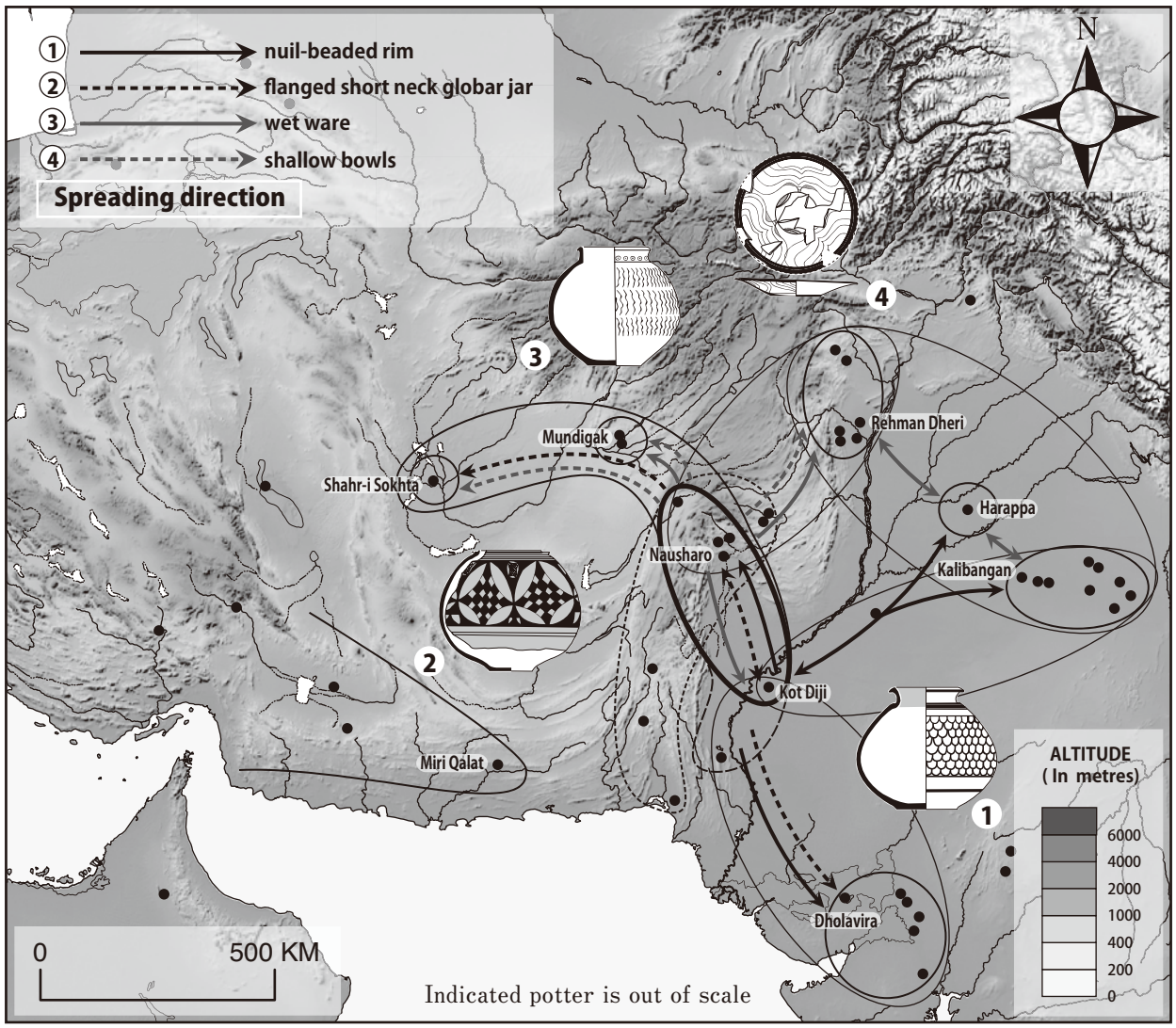


Figure. 7 Stage 5 (ca. 2800-2600 BCE): Transition

The pottery having a nailed-beaded rim are reported from the layers 4 and 3 of Kot Diji [Khan 1965], the period IC of Nausharo [Jarrige 1997; Quivron 1994], the period IV of Gumla [Dani 1970-71], Rehman Dheri [Durrani 1988], the period 2 of Harappa [Jenkins 1994a; Meadow and Kenoyer 2001] and the period I of Kalibangan [Lal *et al*. 2003].

Flanged short neck globular jar painted by a large-patterned geometrical motif on the upper part of the body are reported from the layers 4 and 3 of Kot Diji [Khan 1965], the period IC of Nausharo [Jarrige 1997; Quivron 1994], Lal Shah [Pracchia 1985], the period IV (1-0) of Shahr-i Sokhta [Biscione 1990; Lamberg-Karlovsky and Tosi 1973; Tosi 1968, 1969], Tepe Rud-i Biyaban [Tosi 1970b] and Moti Pipli [Ajithprasad 2002], etc.

Wet Wares are from the layers 4 and 3 of Kot Diji [Khan 1965], the period IC of Nausharo [Jarrige 1997; Quivron 1994], Lal Shah [Pracchia 1985], the period IV (3) of Mundigak [Casal 1961], Bhando Qubo [Shaikh and Veesar 2000-2001], the period IV of Gumla [Dani 1970-71], Rehman Dheri [Durrani 1988], the period 2 of Harappa [Jenkins 1994a; Meadow and Kenoyer 2001], the period I of Kalibangan [Lal *et al*. 2003], etc.

Shallow bowls painted by the stylized naturalistic motives on the internal surface are from the period IC of Nausharo [Jarrige 1997; Quivron 1994], Lal Shah [Pracchia 1985], the period IV (1-0) of Shahr-i Sokhta [Biscione 1990; Lamberg-Karlovsky and Tosi 1973; Tosi 1968, 1969], Tepe Rud-i Biyaban [Tosi 1970b], the period IV (3) of Mundigak [Casal 1961], Bhando Qubo [Shaikh and Veesar 2000-2001], the period IV of Gumla [Dani 1970-71], Rehman Dheri [Durrani 1988], etc.

These distributions of some specific pottery types

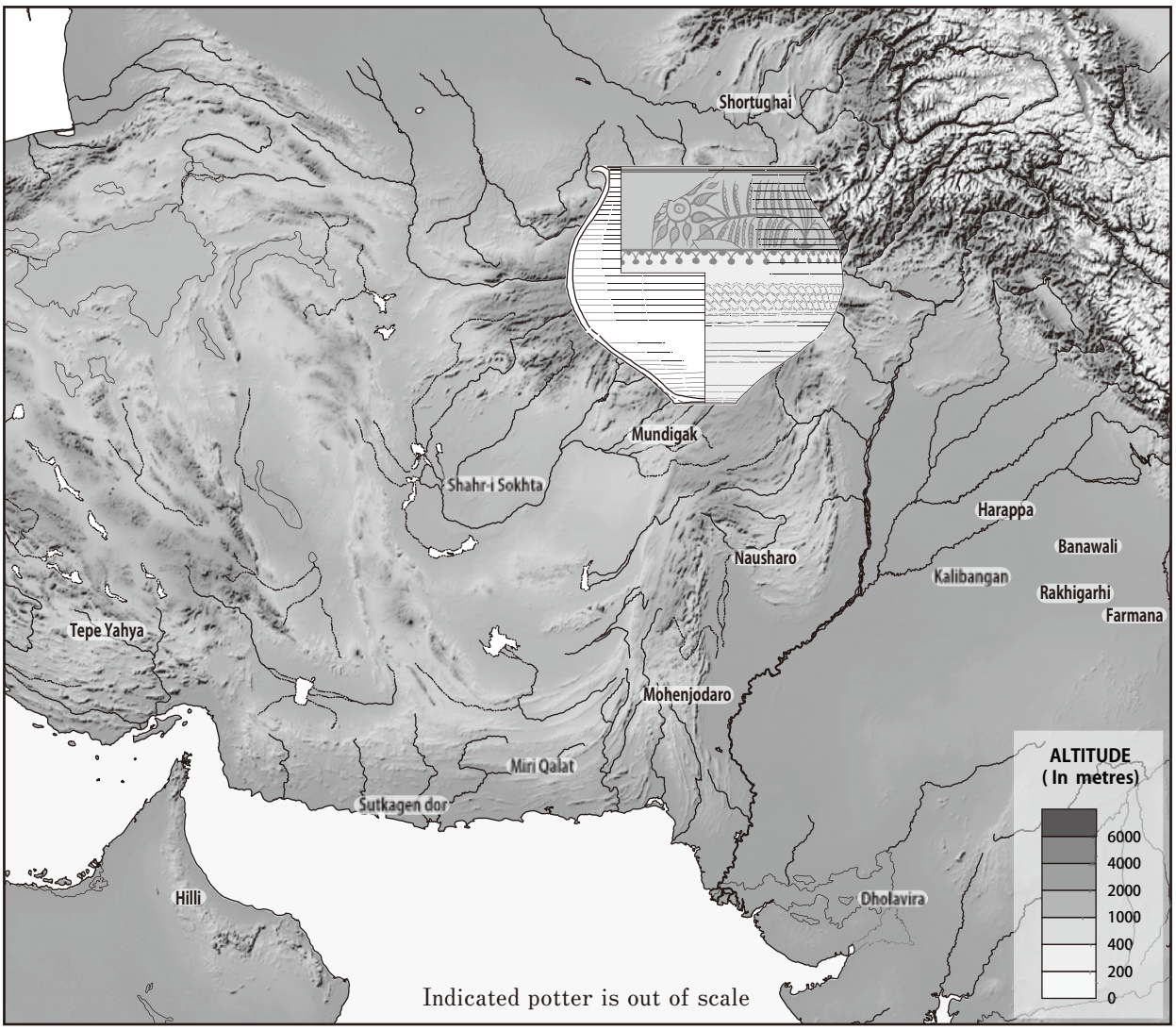


Figure. 8 Stage 6-early (ca. 2600-2400 BCE.): Harappan Pottery

express that the interexchange between Quetta and Sindh regions, which did not be recognized in Stage 4, rose to prosperity in this stage. And it is very important that Sindh region had the relations with Iranian plateau and Afghanistan through Quetta region in this transitional phase. Especially, it is also important to understand the interexchange in this stage why the pottery excavated from Bhando Qubo [Shaikh and Veesar 2000-2001] show both characters of Kachhi and Sindh regions [Uesugi and Konasukawa 2008].

(8) Stage 6-early (ca. 2600-2400 BCE): Harappan Pottery

Although Harappan pottery is not a main subject of this paper, we will refer to the pottery also for discussing the pottery of Balochistan region in Stage 6-early.

Harappan pottery was spread over the vast area in Stage 6-early (ca. 2600-2400 BCE) as the early phase of the Indus period (Fig. 8). G. Quivron presented that Harappan pottery penetrated into sites of areas so far from Sindh region, Shortugai in Afghanistan [Francfort 1989] and Sutkagen dor in Makran [Dales and Lipo 1992], when Indus Civilization had been formed [Quivron 2000; Uesugi and Konasukawa 2008]. However, only Harappan pottery had not been used in the urbanized society, it is the actual condition that Harappan pottery had been used along with other type pottery which had exited conventionally in each region since Stages 4 and 5. As a matter of fact, except for the main cities such as Mohenjodaro and Harappa, Harappan pottery was not the majority of unearthed pottery in the site of Farmana where is

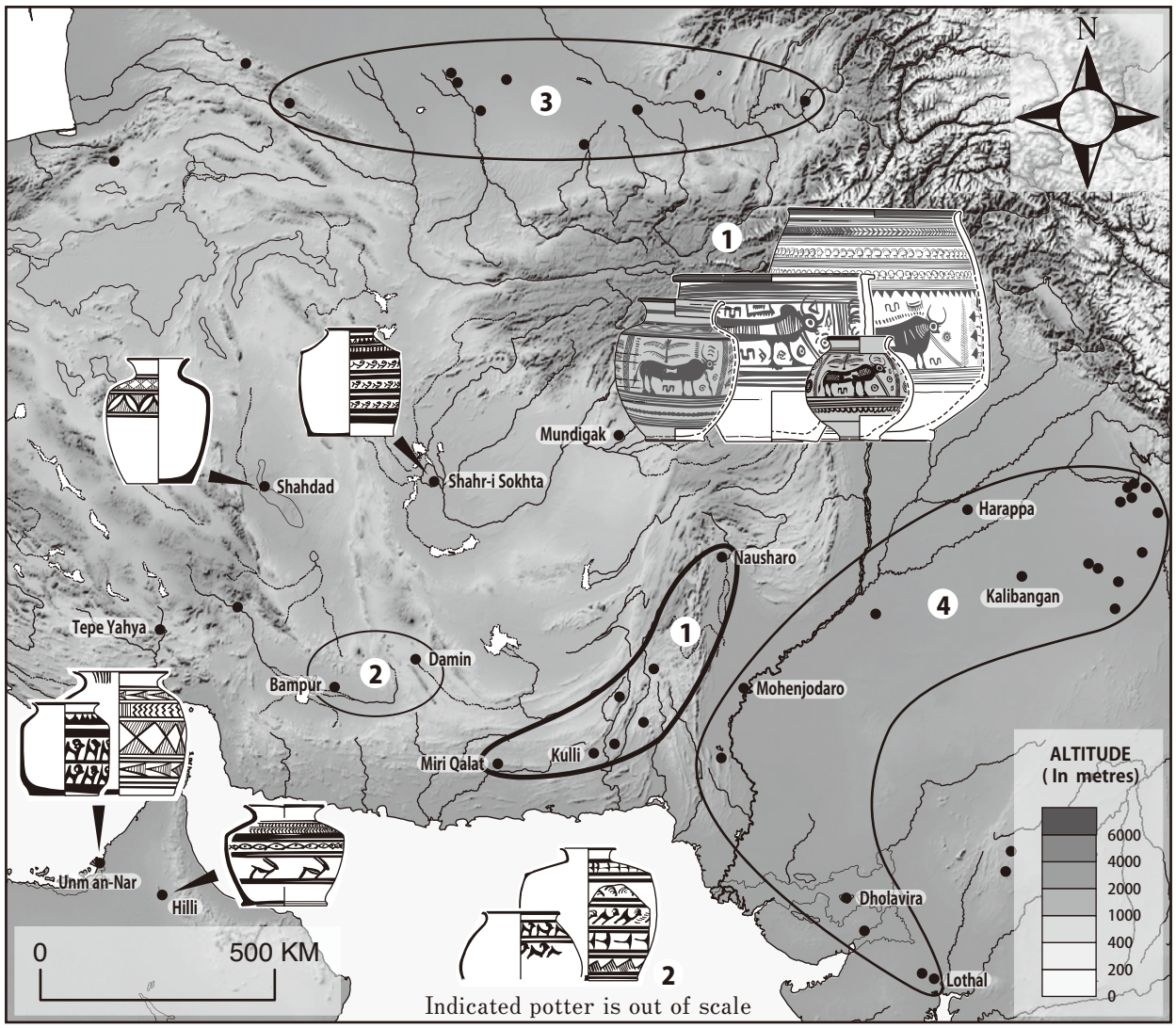


Figure. 9 Stage 6-late (ca. 2400-1900 BCE): Kulli Pottery

situated at Haryana region [Shinde *et al*. 2011]. In the urbanized period of Farmana (Period II), most of excavated pottery is Sohti-Siswal Pottery, and a few Harappan pottery is excavated along with them [Uesugi 2011].

On the other hand, pottery and culture of Balochistan region in this stage is not clear. Harappan pottery is excavated from Nausharo where was belonging to Quetta culture in Stages 4 and 5 [Quivron 2000]. But we could not believe that the painted pottery tradition of pre-/protohistoric Balochistan from the five thousands millennium BC disappeared completely in this stage. Franke-Vogt, U. emphasis the possibility that the pottery such as Quetta-Sadaat Pottery had continued to this Stage [Franke-Vogt, U. 2008a]. This pottery seems to be succeeded to the painted pottery tradition of pre-/protohistoric Balochistan. We have to wait for the accumulation of the data having a good context before stating agreement. On the other hand, Kulli pottery was in this stage [Quivron 1994; Samzun 1992], flourished in Stage 6-late (ca. 2400-1900 BCE) [Kondo *et al*. 2007; Shudai *et al*. 2010].

(9) Stage 6-late (ca. 2400-1900 BCE): Kulli Pottery

Stage 6-late (ca. 2400-1900 BCE) is chronologically parallel to the middle and later phases of the Indus period. Kulli pottery is distributed around the Awaran and Kanrach regions in southern Balochistan (Fig. 9-①). Kulli pottery is reported from Kulli [Possehl 1986], Mehi [Possehl 1986], Nindowari [Casal 1966; Jarrige *et al*. 2011], Niai Buthi [Franke-Vogt, U. 2000, 2008a; Franke-Vogt, U. *et al*. 2000, 2005, 2008; Quivron 2008], the period IV of Nausharo [Jarrige

1994], etc. (Fig. 9)

In this stage, Harappan pottery had been along with other pottery types, which had exited conventionally in each region since Stages 4 and 5, in the Indus plain as well as Stage 6-early (Fig. 9-④). Though Kulli and Harappan pottery have different painting style, they have typological relations on pottery form.

The distribution area of Kulli pottery is basically restricted in the Awaran and Kanrach regions of southern Balochistan (Fig. 9). However, canisters which is characteristic pottery form of Kulli pottery, are reported from the period VI of Bampur [de Cardi 1979; Fig. 9-②], the period IV of Shahr-i Sokhta [Lamberg-Karlovsky and Tosi 1973] and Shahdad [Hakemi 1997] in Iran, Hilli [Serge 1984] and Umm an-Nar [Frifelt 1991, Højrund and Andersen 1994, Serge 1984, Vogt 1985, etc], etc. in the Oman peninsula. It's distribution area show a relationship between Southern Balochistan and Iran and the Oman peninsula, but this canister does not confirmed to be excavated from Indus plain (Fig. 9-④) [Kondo *et al*. 2007; Shudai *et al*. 2010].

Furthermore, the pottery which have a relation with the Bactria Margiana Archaeological Complex (called as BMAC; Fig. 9-③), is reported from Mehi [Possehl 1986]. It is assumed that there was a relationship between both regions in the later part of Stage 6-late, because the dating of BMAC is placed to around ca. 1800 BCE [Hiebert 1994a, 1994b; Hiebert and Lamberg-Karlovsky 1992; P'yankova 1994; Sarianidi 1993, 1994, etc.]. We will not discuss even more this BMAC in this paper.

D. Chronological Sequence of the making technique and painting style of Pre- /Protohistoric Balochistan pottery

We will discuss here chronological sequence of the making technique and painting style of pottery of pre-/protohistoric Balochistan.

Detailed typological study based on the stratified sequence is impossible here, because the pottery stored in the Aichi Prefectural Ceramic Museum are not the excavated materials and have no accurate good context. However as is described by our observations in above part, it is most likely that the pottery stored in there include various pottery types which belong to a long period from ca. 5000 to 1900 BCE. For this reason, although there are some restrictions derived from pottery themselves, we would like to argue that it might be possible to discuss roughly the sequence of the making technique and painting style of pottery of pre-/protohistoric Balochistan.

(1) Chronological Sequence of the making technique of Pre- /Protohistoric Balochistan pottery (Fig. 10)

The oldest pottery of South Asia is the Basket-marked pottery which was excavated from the period II (ca. 6 millennium BC) of Mehrgarh [Franke-Vogt, U. 2008a; Jarrige 1998; Jarrige *et al*. 1995; Vandiver 1995]. On the making technique of the pottery, P.B. Vandiver concluded that the first pottery of South Asia was manufactured by the sequential slab construction technique, not the coil building technique [Vandiver 1995].

Start of using the turn-table in Stage 2 is the most important phase in history of pottery making technique of pre-/protohistoric Balochistan. It is assumed that the pottery making technique had rapidly developed since a turn-table had used in making KGM pottery (Stage 2). It can be emphasized that the traditional pottery making techniques of pre-/protohistoric Balochistan are the primary forming by the coil building technique and scraping and smoothing by tools like spatulas employed were done on a turn-table since Stage 2. The use of turn-table efficiently from Stages 2 to 6 is assumed by the marks of the rotating scrape and smooth, and painting lines, which were gradually done in horizontally. It is traditional pottery making pattern that scraping and smoothing was done by spatulas or fingers on a turn-table had been employed since Stages 2 to 6 [Kamada 1986 etc.].

Although the marks of scraping had been gradually deleted by the rotating smooth with the development of the pottery making technique, we can observe many specimens having some marks of rotating scrape on the lower part of the body through the time. Namely, it is worth to mention here that one of the major feature of pottery making techniques of pre-/protohistoric Balochistan since Stage 2 is the multi-use of rotating scrape and smooth. And the remarkable polishing technique on KGM pottery had not been basically employed in

pottery of pre-/protohistoric Balochistan without Sheri Khan Tarakai Pottery in Stage 3-early.

The appearance of complete throwing technique using a potter's wheel was introduced in Stage 4. Although all of pottery had not made by the complete throwing technique using a potter's wheel since Stage 4, the appearance of this technique should be mark an important phase in the sequence of pottery making technique of pre-/protohistoric Balochistan. However the turn-table and potter's wheel are often dealt with the same equipments in South Asian archaeology. So, we should distinguish the pottery made on a turn-table which are tended to be understood as the pottery made by a potter's wheel from a potter's wheel. We would like to use the term 'potter's wheel' only when we recognize the pottery completely made by throwing clay technique using a potter's wheel. Even if the turn-table and potter's wheel have same structure, it is an important idea for proper understanding to distinguish the making techniques.

The appearance of complete throwing clay technique on a potter's wheel in the pre-/protohistoric Balochistan closely related to the interexchange in Stage 4 why Quetta of central Balochistan and south-eastern Iran (i.e. Shahr-i Sokhta etc.) have a specific relationship on the pottery making is clear [Wright 1989a・c, 2010 etc.]. Namely, both areas have a specific relationship on the pottery making. Some shards of Quetta pottery (or Quetta related pottery) are discovered from Tepe Rud-i Biyaban, and the appearance of complete throwing clay technique using a potter's wheel recognized at some Iranian sites such Shahr-i Sokhta etc. before the appearance of it in Balochistan [Laneri and Pilato 2000 etc.]. We do not ever agree only the spread of the complete throwing clay technique on a potter's wheel from the Iranian plateau to Balochistan, it is most likely that this technique was brought from Iran in Stage 4 on a cultural relationship between Quetta in central Balochistan and south-eastern Iran (i.e. Shahr-i Sokhta).

It is presumed that the pottery making technique of pre-/protohistoric Balochistan after the appearance of complete throwing clay technique using a potter's wheel in Stage 4 consist of using a turn-table and potter's wheel. It is clear from above considerations that the majority of pottery without small-sized pottery made by the complete throwing clay technique using a potter's wheel, was made by the traditional pottery making technique of pre-/protohistoric Balochistan, that is forming by the coil building technique and rotating scrape and smooth on a turn-table since Stage 2.

But we know many pottery which were made by using a turn-table efficiently after Stage 4 (i.e. Quetta Pottery and Kulli Pottery, etc.). They are often mistook for being made by the complete throwing clay technique on a potter's wheel in appearance, but they are smoothed on a fast turn-table, not potter's wheel.

If the percentage of using potter's wheel was increasing after the establishment of simultaneous using of a turn-table and potter's wheel (in Stage 4), the traditional pottery making technique that is formed by the coil building technique and finished by rotating scraping and smoothing using a spatula and fingers on both equipments had been employed. This complicated pottery making technique is also common with it of Harappan Pottery.

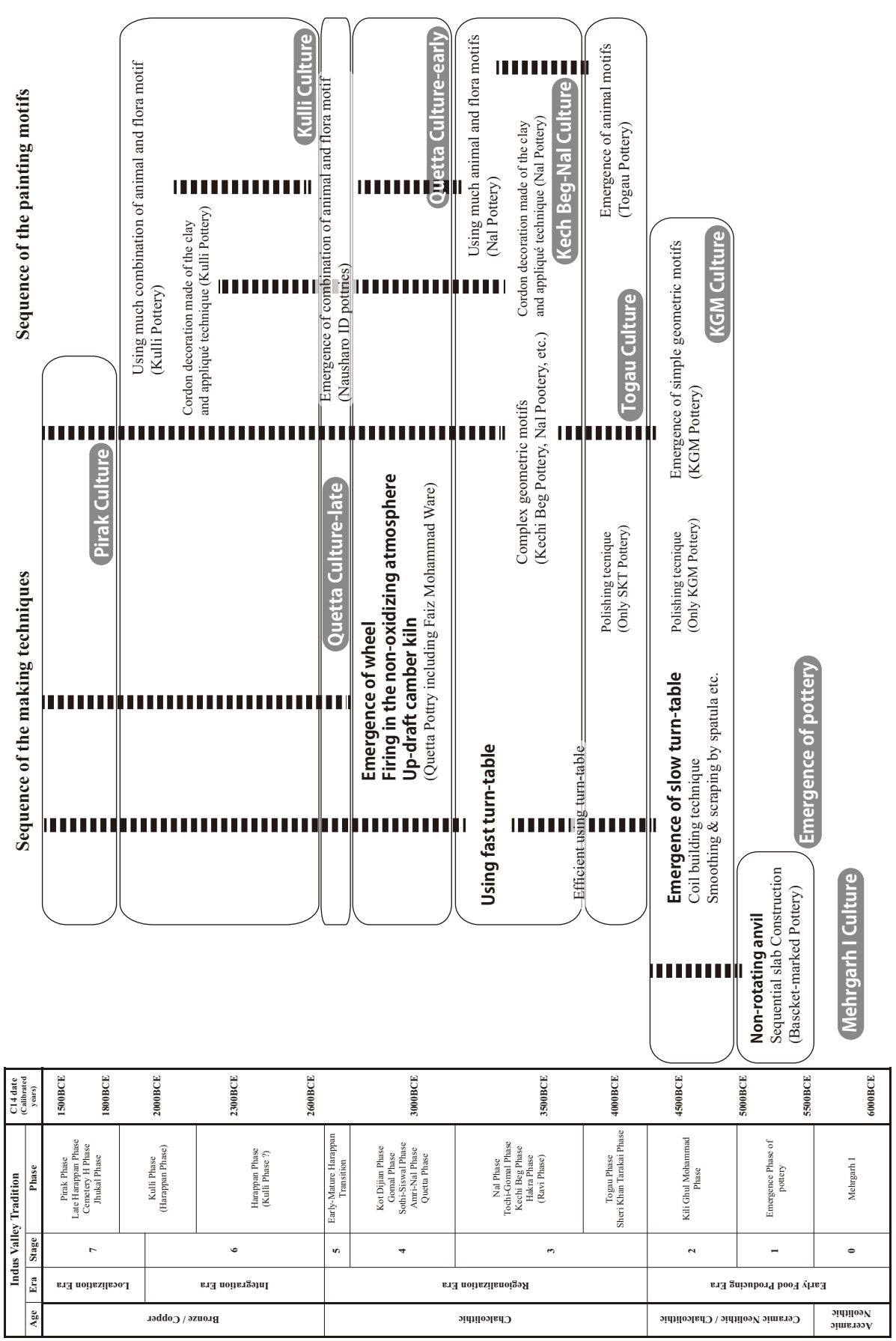
Furthermore the beating as the main pottery making technique in modern South Asia can not be recognized in pottery of pre-/protohistoric Balochistan. The process of emergence of this technique has not been clear so far.

(2) Chronological Sequence of the painting style of Pre- /Protohistoric Balochistan pottery (Fig. 10)

Although there are some pottery decorated by the cordon decoration made of the clay and appliqué technique in the pottery of pre- /protohistoric Balochistan. Most important feature is the various paintings. in the pottery decoration of pre- /protohistoric Balochistan. We will discuss the chronological sequence of the painting style, especially animal and naturalistic motives of pre-/protohistoric Balochistan pottery.

The oldest painting pottery of pre- /protohistoric Balochistan is KGM pottery in Stage 2. Their painting motives are simple geometrical ones only. There is no specimen having animal and naturalistic motif in this period.

The first animal motives appeared in Togau Pottery in Stage 3-early. Their animal motives such as humped bulls and birds are painted in line as sideway on the external surface of the upper part or internal surface of the body of pottery. Togau



Indus Valley Tradition				C14 date (Calibrated years)
Age	Era	Stage	Phase	
Bronze / Copper	Localization Era	7	Pirak Phase Late Harappan Phase Cemetery H Phase Jhukai Phase	1500BCE 1800BCE
	Integration Era	6	Kulli Phase (Harappan Phase)	2000BCE
			Harappan Phase (Kulli Phase ?)	2300BCE 2600BCE
Chalcolithic	Regionalization Era	5	Early-Mature Harappan Transition	
		4	Kot Dijian Phase Gomal Phase Sothi-Siswal Phase Amri-Nal Phase Quetta Phase	3000BCE
		3	Nal Phase Tochi-Gomal Phase Kechi Beg Phase Hakra Phase (Ravi Phase)	3500BCE
			Togau Phase Sheri Khan Tarakai Phase	4000BCE
Ceramic Neolithic / Chalcolithic	Early Food Producing Era	2	Kili Ghul Mohammad Phase	4500BCE
		1	Emergence Phase of pottery	5000BCE 5500BCE
Aceramic Neolithic		0	Mehrgarh I	6000BCE

Figure. 10 Sequence of the Making Technique and Painting Style of Pottery of Pre-/Protohistoric Balochistan Cultural Tradition

pottery is characterized by this painting style. Their animal motives are spread over Balochistan regions. It is very interesting that different pottery shapes share resemble painted motives. It seems that painted motives had important meanings on the interexchange in this period.

In Stage 3-late, there are Kechi Beg Pottery characterized by sophisticated geometrical motives and Nal Pottery characterized by animal, naturalistic and geometrical ones as a distinctive polychrome painted pottery. The latter is the most important pottery for discussing about the sequence of the painting style of pre-/protohistoric Balochistan pottery, because, as it will be mentioned bellow, the painted motives of Nal Pottery had used for a long term. In other words, animal motives such as humped bulls, birds and fishes, etc., naturalistic motives such as pipal etc. and geometrical motives such as step-like motif etc. had been painted continuously on the pottery from this period to Stages 4 (i.e. Quetta pottery) and 6 (i.e. Kulli pottery).

Various polychrome motives of Nal pottery were painted in some panels which are set on the upper part of the external body by parallel lines or naturalistic motives. This painting pattern of motives between parallel lines or naturalistic motives was succeeded to Quetta black on buff painted pottery in Stages 4 and 5, and Kulli pottery in Stage 6-late. And it should be noted that each painting motives were painted separately one by one in each panel in this Stage. There is no example having a combination pattern of animal and naturalistic motives like 'animal motif plus naturalistic one'.

It can be pointed out that painted motives of Nal pottery were succeeded to Quetta pottery in Stage 4 why many painted motives and their painting patterns are common in both pottery. However, a distribution area of Nal pottery (Fig. 5) is restricted on the one hand, pottery having same painting motives with Quetta pottery are spread over Balochistan and south-eastern Iran on the other (Fig. 6). These results of analysis suggest that painting motives of Quetta pottery had played an important function on the interexchange between those regions in Stage 4. Furthermore, it is interesting to note that many painting motives of Quetta pottery, especially FMW, are took into motives of Harappan pottery in Stage 6-early after realignment of interexchange in Stage 5 [Konasukawa 2008b, 2008c; Shudai *et al*. 2010].

We defined that painting motives of Nal pottery are succeeded to Quetta pottery. Their painting motives, which had been painted separately in each panel since Stage 3-late, formed a specific combination set 'animal motif plus naturalistic one' such as some specimens excavated from the period ID of Nausharo [Quivron 1994; Samzun 1992] in Stage 5. This specific combination set 'animal motif plus naturalistic one' can be understood as a proto form of painting style of Kulli pottery in Stage 6-late.

Plants and animal motives like a humped bull and pipal and geometric motives like steps had been painted on pottery surface for a long term since the second half of 4th millennium B.C. (i.e. Nal pottery in Stage 3-late) till the first half of 2nd millennium B.C. (i.e. Kulli pottery in Stage 6-late). And a specific rule of painting pattern which appeared in Nal pottery for the first time, that motives are painted in panels which are set on the upper part of the external body by parallel lines or naturalistic motives, are also succeeded to the pottery of later Stages.

It is very difficult to explain archaeologically why same motives and painting patterns were maintained for a long term. But it is clear from above analysis that the traditional motives which consist of animal, naturalistic and geometrical ones were kept through Stages in pre-/protohistoric Balochistan. And it can also be noted that this traditional motives was retained, especially animal and naturalistic ones in the Balochistan pottery disappeared simultaneously with the decline of Kulli pottery in the final phase of Stage 6-late.

Ⅲ. Pottery Cultures of Pre- /Protohistoric Balochistan

The pottery making technique had rapidly developed since the turn-table had been used in Stage 2. It was not main technique of Balochistan pottery that a potter's wheel technique was firstly employed in Stage 4, but it was the traditional pottery making technique of pre- and protohistoric Balochistan that the primary forming by the coil building technique and rotating scrape and smooth was done on a turn-table using pottery making tools like spatulas employed since Stage 2. And we confirmed that plants and animal motives like a humped bull and pipal, and geometric motives like steps had been painted on pottery surface for long term since second

half of 4th millennium B.C. to first half of 2nd millennium B.C. We supposed furthermore that the process to be painted with plants and animals motives in set during Stage 5. Motives of plants and animals had been painted separately until then. This type of painted motif is specialized to Kulli pottery that was fired in Stage 6 late.

To sum up above mentioned, the manufacture of pre- and protohistoric Balochistan pottery has following primary feature that making techniques and motives were maintained for long term as tradition. Needless to say, it is true that the manufacture of pre- and protohistoric Balochistan pottery had changed and transitioned as the transition of cultural interaction on each Stage. But it is important that the traditional technique and motives were kept through Stages. We want to emphasize on this continuous technique and motives in the Balochistan pottery.

In this chapter, we will think how pottery types do figure to pottery culture, which does not mean culture in overall but material culture of pottery types or style, on the discussion above.

A. Stages of Balochistan Pottery

(1) Stage 0 (c.a. -5500 BCE): Mehrgarh I Culture

This Stage is an aceramic Neolithic culture. It could not be consider the pottery culture why pottery did not excavated. We set this Stage to Mehrgarh I Culture for the sake of convenience.

(2) Stage 1 (ca. 5500–5000 BCE): Beginnings of Pottery Culture

First pottery appeared in South Asia was manufactured by the sequential slab construction technique [Vandiver 1995]. This crude pottery, which has basket marks on inner wall, was made by attaching clay slabs on outside wall of basket. Basket-marked pottery was born as fired clay and basket together. But, it could not be mentioned anymore about distribution area of this pottery type as a few pieces unearthed. Though Vandiver said this baked clay is the primitive pottery, we suppose loose stitches of basket were filled up with this clay [Shudai 2009]. But, baskets had changed to moulds of pottery in following Mehrgarh II. Attaching clay slabs on inside wall of basket made true pottery, which has basket marks on outer wall.

(3) Stage 2 (ca. 5000-4000BCE): KGM Culture

KGM pottery was confirmed in Stage 2. KGM pottery was manufactured on a turn-table, and painted simple geometric pattern on polished surface. Basket-marked pottery, called Burj basket-marked pottery, still survived. Though sites are a few and distribution area also unknown, pottery culture of this Stage is prescribed as KGM Culture.

(4) Stage 3-early (ca. 4000-3600BCE): Togau Culture

We could recognize the first animal motives were appeared in this Stage of pre- and protohistoric Balochistan culture. Animal motives, humped bull and birds, are painted in line as sideway. Togau pottery is characterized by this style animal motives are painted. Pottery Culture of this Stage, which animal motives are spread over Balochistan, is prescribed Togau Culture.

At the same time, pottery painted by animal motif in line also excavated from Bannu basin, it is Sheri Khan Tarakai pottery. Although pottery form and way of painting animal are different between Togau pottery and Sheri Khan Tarakai pottery, the painting style of animals in line was prevalent. We can see some cultural interactions between them.

(5) Stage 3-late (ca. 3600-3200 BCE): Kechi Beg-Nal Culture

What the turn-table became efficient, intricate geometric and animal motives, and polychrome paintings were flourished are distinct in this Stage. Especially, it is important that fauna and flora motif like a humped bull and pipal, and geometric motives like a step on Nal Pottery hacl survived for long-term as the tradition of Balochistan culture from Stage 3-late onward. This tradition is clearly different from Tochi-Gomal pottery (including Ravi pottery), Hakra pottery, Amri pottery and Anarta pottery in plain areas. And so pottery culture of Stage 3-late was prescribed as Kechi Beg-Nal Culture. However, Nal and Kechi Beg pottery are different in the way of paintings. Kechi Beg polychrome pottery was painted between many parallel lines, Nal polychrome pottery was painted in panels. Painting pattern of geometrics motives between parallel lines was succeeded to Quetta black on buff painted pottery in Stage 4 and 5.

Table. 1 Chronological Chart of Related Regions (1)

Indus Valley Tradition				C14 date (Calibrated years)	*Mesopotamia*	*Iran*					*Southern Turkmenia*		*Bactria & Margiana*	*Afganistan*			*Persian Gulf*	*Kechi-Makran*	
Age	Era	Stage	Phase			Susa	Tepe Hissar	Tepe Hahya	Shahr-i Sokta	Bampur	Namazga	Altyn depe		Mundigak	Said Qala	DMG		Miri Qalat	Sutkagen dor
Bronze / Copper	Localization Era	7	Pirak Phase Late Harappan Phase Cemetery H Phase Jhukal Phase	1500BCE	Old Babylonian						Anau		Takhirbai						
				1800BCE			IIIC1	IVA	VI(0)		VI		BMAC	V					
			Kulli Phase (Harappan Phase)		Ishin-Larsa							1					Barbar		
	Integration Era	6		2000BCE	Ur III					VI									
			Harappan Phase (Kulli Phase ?)	2300BCE	Akkad		IIIB	IVB	VI(1)				Kelleli						
					ED IIIB		IIIA					4							
						IV					V	5					Unm an-Nar	IV	
				2600BCE	ED IIIA														
Chalcolithic	Regionalization Era	5	Early-Mature Harappan Transition		ED II				III(4-2)	V1-2 IV1-3		8		IV3 IV2		III		IIIC (Dasht 2)	
		4	Kot Dijian Phase Gomal Phase Sothi-Siswal Phase Amri-Nal Phase Quetta Phase		ED I	III			II(7-5)	III	IV	9				c II b a		IIIB (Dasht 1)	
				3000BCE	Jemdet Nasr		IIB	IVC		II		10		IV1	?		Hafit	IIIA	
						II			I (9-8)	I									
		3	Nal Phase Tochi-Gomal Phase Kechi Beg Phase Hakra Phase (Ravi Phase)		Late Urk		IIA				III	11		III	II				
				3500BCE	Middle Urk	I					II			II	III			II	
			Togau Phase Sheri Khan Tarakai Phase				IC	V						I	IV				
				4000BCE	Early Urk Final Ubaid						I (Anau IA)				V ?	I ?			
Ceramic Neolithic / Chalcolithic	Early Food Producing Era	2	Kili Ghul Mohammad Phase	4500BCE	Ubaid 4			VI											
											Anau IA								
		1	Emergence Phase of pottery	5000BCE	Ubaid 1-3													I ?	
				5500BCE															
Aceramic Neolithic		0	Mehrgarh I																
				6000BCE	Ubaid 0														

ED:Early Dynastic DMG: Der Morasi Ghundai BMAC: Bactria Margiana Archaeological Complex

Table. 2 Chronological Chart of Related Regions (2)

Age	Era	Indus Valley Tradition Stage	Phase	C14 date (Calibrated years)	Khuzdar, Arawan, Kanrach: Kulli & Mehi	Khuzdar, Arawan, Kanrach: Nidowari	Khuzdar, Arawan, Kanrach: Nal	Karat: Anjira	Karat: Siah Damb	Quetta: KGM	Quetta: Damb Sadaat	Kachi: Mehrgarh	Kachi: Nausharo	Kachi: Pirak	Zhob-Lorarai: Rana Ghundai	Zhob-Lorarai: Periano Ghundai	Zhob-Lorarai: Sur Jangal
Bronze / Copper	Localization Era	7	Pirak Phase Late Harappan Phase Cemetery H Phase Jhukal Phase	1500BCE	Mehi (BMAC)							VIII		I B I A			
				1800BCE													
	Integration Era	6	Kulli Phase (Harappan Phase)	2000BCE		III							IV				
			Harappan Phase (Kulli Phase ?)	2300BCE	Kulli								III				
					?	II	IV						II		?	?	
				2600BCE									D C B A				
Chalcolithic	Regionalization Era	5	Early-Mature Harappan Transition	3000BCE			III				III	C VII B A	I		IIIc		
		4	Kot Dijian Phase Gomal Phase Sothi-Siswal Phase Amri-Nal Phase Quetta Phase			I		? V IV	III II iii		II	VI V			IIIb	I (upper)	? III
		3	Nal Phase Tochi-Gomal Phase Kechi Beg Phase Hakra Phase (Ravi Phase)	3500BCE			II I	III	ii II i	IV	I	IV			IIIa		
				4000BCE				II	I	III		III			II		II
Ceramic Neolithic / Chalcolithic	Early Food Producing Era	2	Kili Ghul Mohammad Phase	4500BCE				I		II		II			Ib		
		1	Emergence Phase of pottery	5000BCE						I					Ia ?	I ?	
Aceramic Neolithic		0	Mehrgarh I	5500BCE						I (lower)		I ?					
				6000BCE													

KGM: Kili Ghul Muhammad

Table. 3 Chronological Chart of Related Regions (3)

Indus Valley Tradition				C14 date (Calibrated years)	*Sindh*					*Bannu*		*Gomal*					*North-western and Western Punjab*		
Age	Era	Stage	Phase		Bala kot	Amri	Mohenjodaro	Kotdiji	Chanfudaro	Lewan	SKT	Gumla	Rahman Dheri	Jhandi Babar A & B	GUK North & South	Maru I & II	Sarai Khora	Harappa	Jalilpur
Bronze / Copper	Localization Era	7	Pirak Phase Late Harappan Phase Cemetery H Phase Jhukal Phase	1500BCE 1800BCE		IIID	Jhukal		Jhukal							<II>		5 4	
	Integration Era	6	Kulli Phase (Harappan Phase)	2000BCE		IIIC	B (late)		Ic						? ?	?		3C	
			Harappan Phase (Kulli Phase ?)	2300BCE		IIIB	B		Ib									3B	
				2600BCE	II	IIIA	A	L2-1	Ia			IV (upper)		<B> ?		<I> ?		3A	
Chalcolithic	Regionalization Era	5	Early-Mature Harappan Transition			IIA/B ID	early ?	L4-3				IV	IIIB				?	2	
		4	Kot Dijian Phase Gomal Phase Sothi-Siswal Phase Amri-Nal Phase Quetta Phase	3000BCE		IC		L7-5 L16-8 ?		Late Middle		III	IIIA II	<A> ?	? <North>		II IA	1B	?
		3	Nal Phase Tochi-Gomal Phase Kechi Beg Phase Hakra Phase (Ravi Phase)	3500BCE	I	IB IA				Early ?	?	II	IB IA	?	? <South>	?	I ?	1A	II I
			Togau Phase Sheri Khan Tarakai Phase	4000BCE							?	I ?		?					
Ceramic Neolithic / Chalcolithic	Early Food Producing Era	2	Kili Ghul Mohammad Phase	4500BCE															
		1	Emergence Phase of pottery	5000BCE 5500BCE															
Aceramic Neolithic		0	Mehrgarh 1	6000BCE															

*C14 Chronology in Harappa (Meadow and Kenoyer 2005)
Period 1: Ravi Phase c. 3300(?)-2800(?)BC
Period 2: Kot Diji Phase (Early Harappa) c. 2800(?)-2600/2500BC
Period 3A: Harappa A c. 2600/2500-2450/2400BC
Period 3B: Harappa B c. 2450/2400-2200BC
Period 3C: Harappa C c. 2200-1900BC
Period 4: Transitional c.1900-1800(?)BC
Period 5: Late Harappa c.1800(?)-<1500BC

SKT: Sheri Khan Tarakai GUK: Ghandi Umar Khan

Table. 4 Chronological Chart of Related Regions (4)

Age	Era	Stage	Indus Valley Tradition: Phase	C14 date (Calibrated years)	Northern Rajastan and Haryana: Kalibangan	Banawali	Rakhigarhi	Bhirrana	Kunal	Farmana	Girawad	Mithatal	Gujarat: Dholavira	Surkotada	Kanmer	Lothal	Rangpur	Other sites	Central India: Ahar	Balathal	Gilund
Bronze / Copper	Localization Era	7	Pirak Phase Late Harappan Phase Cemetery H Phase Jhukal Phase	1500BCE									VII						Malwa		
				1800BCE		III	?					IIB	VI		III		III				
			Kulli Phase (Harappan Phase)	2000BCE									V	IC	IIB	B	IIC				
	Integration Era	6						IIB					IV	IB	IIA		IIB				
			Harappan Phase (Kulli Phase ?)	2300BCE								IIA		IA		A	IIA		Phase B		
					II	II	II	IIA		II			III		I						
				2600BCE									II								
Chalcolithic	Regionalization Era	5	Early-Mature Harappan Transition						Ic			I							Phase A		
		4	Kot Dijian Phase Gomal Phase Sothi-Siswal Phase Amri-Nal Phase Quetta Phase	3000BCE	I	I	Ib	IB		I ?			I				I	Motipipli			
																	?				
		3	Nal Phase Tochi-Gomal Phase Kechi Beg Phase Hakra Phase (Ravi Phase)	3500BCE			Ia		Ib									Loteshwar			
								IA			Girawad										
									Ia		?										
			Togau Phase Sheri Khan Tarakai Phase	4000BCE																	
Ceramic Neolithic / Chalcolithic	Early Food Producing Era	2	Kili Ghul Mohammad Phase	4500BCE																	
Ceramic Neolithic		1	Emergence Phase of pottery	5000BCE																	
		0	Mehrgarh I	5500BCE																	
				6000BCE																	

(6) Stage 4 and 5 (ca. 3200-2600 BCE): Early Quetta Culture and Late Quetta Culture

Stage 4 is distinguished by the appearance of complete throwing clay technique using a potter's wheel. Although exploiting the turn-table efficiently from Stage 2 onward produced pottery taken the turn-table made for the wheel made, pottery made by a potter's wheel entirely is recognized only after Quetta Pottery Style appeared. And we can see that the grey ware production by the reduction fire in kilns, complete throwing technique by a potter's wheel and fine painting motives on Faiz Mohammad Ware. It is supposed that special pottery craftsmen came into existence in this Stage. Painting motives of this Stage have common traits with Nal Pottery, pottery of them are same in the painting tradition.

It is sure that this Quetta Style Pottery was in common throughout wide area of Balochistan, and that Quetta Style Pottery is quite different from Northern Kot Diji pottery, Southern Kot Diji pottery, Sothi-Siswal pottery, Amri pottery and Anarta pottery flourished in the plains as we confirmed in chapter I-C.

Painted motives of Quetta Style Pottery had changed in Stage 5, which is transitional phase to the civilization. Fauna and flora motives like humped bull and pipal were combined as a set of motif in Stage 5. However, pottery making technique and fundamental painted motives were same to Quetta Style Pottery. Therefore, it could be prescribed Stage 4 and 5 as Quetta Culture, and divided into Early Quetta Culture of Stage 4, Late Quetta Culture of Stage 5.

(7) Stage 6-early and late (ca. 2600-1900BCE): Kulli Culture

Although Harappan Pottery was excavated from Kachhi plain like site of Nausharo and others when Indus Civilization had established around 2600BCE, other pottery types are vague in Balochistan. It is uncertain that Kulli Pottery already existed in Stage 6-early. Kulli Pottery, which character is "animals with large round eyes and flora in a set", was flourished in following Stage 6-late, and indicate Kulli Culture. However, Kachhi plain is the northern limit of Kulli Pottery is excavated. So, it might be possibly that homeland of Kulli pottery was more south from Quetta area.

(8) Stage 7 (ca. 1900BCE-): Pirak Culture

We could not express our view on pottery after Kulli Pottery, painted pottery had been flourished in Balochistan. What is particularly important is Pirak Pottery which fine geometric motives are distinct, making technique and painted motives of Pirak pottery are recognized in Balochistan pottery lineage.

B. Pottery Culture of Pre- and Protohistoric Age: Conclusion

Pottery studies of pre- and protohistoric Balochistan had proposed new 'Ware's and 'Phase's in the past, emphasizing on their characters, example for Quetta black on buff ware, Damb Sadaat ware, Loralai coarse painted ware and Zhob cult phase, etc. It is not wrong way to appreciate their characters of each potsherd, but it is necessary to look all over pottery unearthed from Balochistan.

It has been discussed on pre- and protohistoric pottery cultures of Balochistan by investing the pottery stored in Aichi Prefectural Ceramic Museum, Japan in this paper. We confirmed some epochs that the beginnings of utilizing rotation in Stage 2, use and efficient using of the turn-table in after then, and the appearance of potter's wheel in Stage 4 on making techniques of pottery. And it could be recognized that some changes also did on painted motives. It was from simple geometric motives to fine and complicated geometric motives, and realistic fauna and flora motives appeared in Stage 3, and the formation of combined fauna and flora motives in Stage 5.

It is certainly that these changes of pottery making techniques and painted motives are derived from inter-relationship between areas in Balochistan, as we saw in chapter I-C. However, we can see some changes on one hand, we can see on the other hand the system of maintenance tradition on the pottery making of pre- and protohistoric Balochistan. This conservative on pottery making is prime character of pre- and protohistoric Balochistan culture, and is important to consider the inter-relationship of pottery culture discussed in here.

So, it is supposed that Kulli Culture, which is distinct on combined fauna and flora motives, in Stage 6 was born from the lineage of Kechi Beg-Nal Culture of Stage 3-late and Quetta Culture of Stage 4 and 5 in the pottery making technique and painted motif. But,

painted motives of Kulli Pottery are close to one of Nal Pottery rather than Quetta Pottery Style [Shudai 2011]. And KGM pottery in northern Balochistan, Nal pottery in Kalat area, Quetta Pottery Style in Northern Balochistan, and Kulli Pottery in Kalat to Southern Balochistan, their core area of flourished was different. Pre- and protohistoric pottery was originated in different area and led other area as Quetta Culture or Kulli Culture with being on traditional great Balochistan Culture.

Needless to say, a study of pre- and protohistoric Balochistan gives great implication on a study of Indus Civilization. Though we dealt with only pottery culture of pre- and protohistoric Balochistan in this paper, it is necessary to be further consideration of comprehensive Balochistan society.

Ⅴ. Closing

Our understandings on Balochistan Culture presented here are still in the hypothesis why we could not know the archaeological context of Balochistan potsherds stored in Aichi Prefectural Ceramic Museum, they did not excavated by archaeological method. However, it is true that these potsherds give various informations on the making pottery techniques and painted motives, as they belong to ca.5000 to 1900BCE, and include many pottery types of pre- and protohistoric cultures of Balochistan. We believe that our works and reports will make small contribution to the study of South Asian Archaeology when archaeological excavations have been suspended in recent years in Balochistan.

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Notes

1) Pottery of today is made on a potter's wheel.

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